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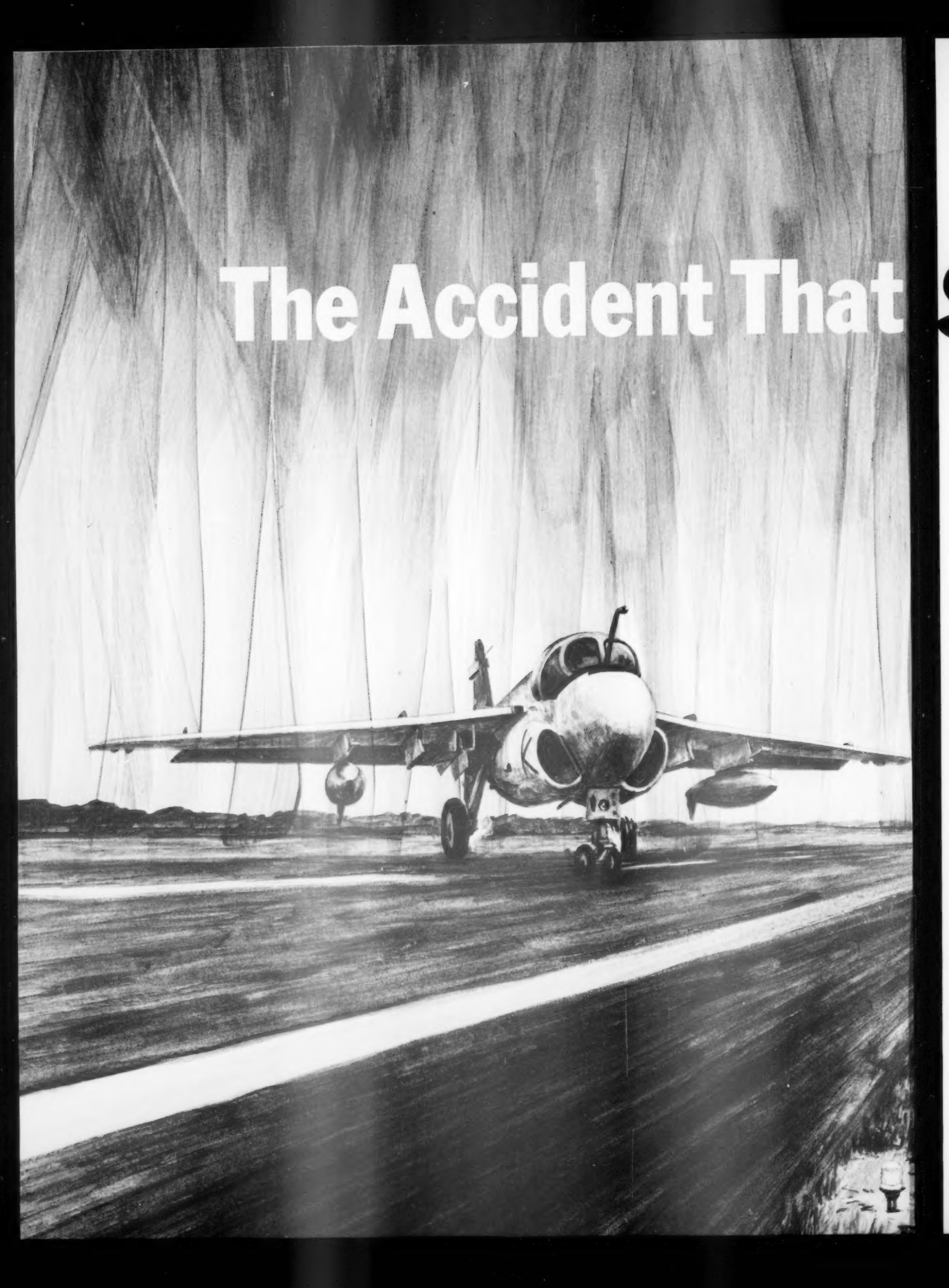
NAVY


The Accident That

Many articles are printed in APPROACH and other safety magazines discussing accidents that "should never have happened." However, after reading the following tale, you'll probably agree that this was . . .

Should Have Happened

By LCDR G. L. Forsberg
VA-145

ACCIDENT investigators commonly acknowledge that a "chain of events" is usually associated with an aircraft accident. One particularly complex chain was built link by link a few years ago. This chain could have been broken at any number of places, but it wasn't. That a major accident or fatal injury didn't occur can be attributed to pilot skill, a little ingenuity, and a lot of luck. Here's what happened.

USS MIDWAY had completed combat operations and was tied up at Cubi Point, crossdecking assets and offloading combat stores and ammunition. Parked at NAS Cubi Point was an A-6 of questionable condition which had arrived at its neglected status in a rather unusual manner.

Wing cracks had been discovered in several A-6 aircraft, and a particularly high number had been found in aircraft belonging to another squadron. The other squadron needed an aircraft until the wing spars could be reworked, so it requested transpac of a replacement aircraft. The aircraft transpac ran into several problems enroute, and by the time it arrived at NAS Cubi Point, the replacement A-6 was due for calendar check. The aircraft was hoisted aboard USS ENTERPRISE, and the inspection was commenced while ENTERPRISE transited to and from Singapore. Upon return to NAS Cubi Point, the aircraft was hoisted off and subsequently flown on two test hops. By the time the second functional check flight was flown, FAWPRA Cubi Point had completed rework on two A-6s, and the transpac bird was no longer needed. Link One: The A-6 was left parked on the ramp at NAS Cubi Point with no preservation and no further flying for 8 weeks.

When USS MIDWAY arrived for her offload and preparation for return to CONUS, it was programmed for her to hoist the transpac A-6 aboard and return it to CONUS. Fine. No problem. Until Korea and a few belligerent military actions, that is. USS MIDWAY was given 4 hours to get underway for the Sea of Japan, and deck multiple had to be reduced for possible combat operations. As one of the few aircraft at acceptable hoist weight, transpac A-6 was hoisted off the ship again.

Crews for two A-3s and four A-6s were left with the aircraft at NAS Cubi Point. Link Two: Plans were made for all six aircraft to fly to MCAS Iwakuni, Japan, despite protests that complete maintenance records were not available for transpac A-6, nor had it flown or even been serviced for over 8 weeks.

The original plan was to fly the six aircraft to Japan after about 4 days. However, the morning after USS MIDWAY left NAS Cubi Point, a message was received requesting that two A-3s and two A-6s be flown to Iwakuni as soon as possible.

ENTERPRISE's beach det was called upon for servicing. Flightcrews began preparations for the long overwater flight. When the two A-6 crews arrived at the flight line, thoroughly briefed and completely filed, they discovered their aircraft needed fuel, oil, hydraulic servicing, LOX, and some minor fixes prior to launch. The A-3s were reasonably ready, so they preflighted and took off. Additional discrepancies were found on the transpac A-6, and work was begun to correct them.

The crews decided at this point, since sunset would occur before they could land at Kadena AFB, to service, fuel, and start the aircraft, check out all systems thoroughly, then launch at first light the next day.

Link Three: The officer in charge of the four A-6 flightcrews countermanded the decision and ordered takeoff of the sections of A-6s.

Taxiing out, flight lead's TACAN was intermittent but had a good lock-on at the end of the runway. Takeoff and rendezvous were uneventful, and climb was commenced to FL330. Approximately 80 miles north, flight lead lost TACAN lock and passed the lead to wingman, who was flying transpac A-6. One hundred miles north of Cubi, an undercast at about FL290 was encountered, and shortly thereafter, wingman's TACAN broke lock on a station 40 miles away. Flight lead was about to call for a return to

Cubi at this time, but didn't do so mostly because of a "can-do" attitude and the explicit instructions given him by the OinC.

As the sun set, the flight proceeded over water toward Okinawa. One and a half hours into the flight, transpac A-6 in the lead suddenly pitched violently nosedown, and all lights went out. Rapid deceleration occurred and flight lead, unable to contact wingman, immediately broadcasted a Mayday to Island FIR, requesting SAR to stand by, thinking wingman possibly had at least a single flameout. Oscillations continued, and a descent was started. Without lights in the now-deep dusk, hand signals could not be passed. Wingman suddenly made a 90-degree turn and leveled at FL300, 1000 feet above the undercast.

Flight lead concluded that wingman was heading for Taiwan. After approximately 10 minutes on the new heading, wingman came up on the UHF. He had had a double generator failure, and apparently transients induced in the stab aug system had caused the control difficulties. He had retarded throttles individually to determine if both engines were still running, causing the deceleration and descent. The ram air turbine would not come on-line until the main generator switches had been cycled to OFF several times. At this point, the lead was passed back to original flight lead, since he had external lights.

After 20 minutes, flight lead's B/N was able to pick up the near shoreline of Taiwan on radar, but communications had not yet been established with any GCI site or any other facility on Taiwan. Communications with Okinawa SAR and FIR faded. Flight lead began a comm search, and finally, Taipei International approach control answered. After a long few minutes, the beleaguered flight was identified on radar, and the flight was set up for penetration, with weather reported as 6000 overcast. The flight entered the undercast at FL270 and encountered patches of rain and turbulence on the descent through the solid clouds. At 6700 feet, the lights of Taipei appeared, and shortly thereafter, Taipei's runway was sighted. But, they were not home-free by any stretch of the imagination.

Unknown to the flight lead, wingman was experiencing further difficulty in that defog was not available on RAT power, and wingman's canopy was fogged over. He could see only the flight lead. Wingman's B/N was attempting to wipe condensation from windscreen and canopy. With the field in sight at 15 miles and assurances by the tower that "the field is yours," a dirty-up was signaled. Shortly thereafter, wingman announced that he had an unsafe left main gear and nose gear and that the flaps had come down, but leading edge slats had not. Gear was recycled and the nose gear went safe, with one mainmount still indicating

unsafe. Flight lead got a visual check, and all gear appeared down, so a turn downwind was made with wingman breaking off first.

Wingman still had 12,000 pounds of fuel aboard, and on RAT power, no capability to dump. Arresting gear was not available at the field, and when asked if there was a field nearby with arresting gear, the tower replied, "No arresting gear available at any field." Link Four: All briefings of Taiwan conducted earlier in the deployment had been for the southern area of Taiwan, where two military diverts were available. In actuality, there was a military field within 40 miles of Taipei that *did* have arresting gear. The brief and filing had been rushed, and diverts 150 miles off track had not been considered as they should have been.

An A-6 with flaps down and slats up is susceptible to nose pitchup and stall, so a slightly fast approach must be flown. A no-flap was not considered prudent, with a heavy weight landing already a problem. In retrospect, an orbit could have been established to burn down fuel, but with RAT power only and the reason for the original control difficulties not yet known, the wingman was understandably anxious to land.

Wingman made his approach, calling position for leader, since he was without lights. He called over threshold, then nothing further was heard. Flight lead assumed he had landed and the RAT had wound down, causing loss of communications, so he set up for his own approach. However, as lead touched down, wingman called, "I'm back airborne, I didn't have any brakes!" Lead continued his rollout and cleared the runway, since he was much lower on fuel and anticipated the possibility of a fouled runway. A short discussion followed, in which it was agreed that wingman should try an approach at the slightly faster speed dictated by the slat condition, then attempt a low, stall-type landing from a flat approach, followed by aerodynamic braking and emergency air bottle brakes, with the B/N pumping the manual handle on rollout.

The wingman executed this maneuver and handled it extremely well down to about 90 knots when a tire blew. The aircraft promptly headed for the weeds on the port side of the runway. Wingman locked the brakes with the emergency handle and slid off the runway with both wheels on fire, blowing the canopy as the aircraft departed the runway. Emergency equipment responded in fine style, immediately extinguished the fires, and assisted the unhurt crew from the cockpit.

The runway was closed for 6 hours, while various methods were attempted to remove the A-6 from the mud and concrete area. It was finally moved by foaming the runway area, attaching cables to the mainmounts, and dragging the aircraft to an adjacent taxiway.

Taipei Airport and Nationalist Chinese Air Force personnel were extremely helpful and efficient and immediately put the flightcrews in touch with the local MAAG, which provided transportation to their communications center, from whence USS MIDWAY was advised of the situation.

A repair and investigation team from USS MIDWAY determined that a flap track was broken, necessitating that the flaps remain full up, and that after replacing wheels and jackpads on the mainmounts, the gear would have to be pinned down since a dropcheck could not be performed. The canopy was replaced and the generators repaired.

NATOPS was consulted and no-flap takeoff criteria constructed. It was directed that flight lead fly the aircraft from Taiwan to Kadena AFB, and thence to MCAS Iwakuni, Japan, with the gear locked down and the flaps locked up.

The long, slow trip was essentially uneventful, particularly when compared to the previous leg, and flight lead gladly left the aircraft to be turned over to the area commander for further repair and rework.

However, the saga of transpac A-6 was not to end here! Higher authority determined that the aircraft should be flown aboard USS MIDWAY and returned to CONUS for repair there. Flight lead was again tasked with this further venture into the unknown.

Fuel was the first problem. With fuel weight low enough to attempt a no-flap shipboard arrestment, only four or five attempts at a trap could be made before reaching bingo fuel. Then, landing gear would have to be raised to make the bingo field, and a big question would exist whether or not they'd come back down.

With flight lead/LSO cooperation, the experiment was begun. Unfortunately, the target wire was missing, and although the first three touchdowns were in the wires, the nose attitude could not be held after touchdown due to the no-flap condition, and the hook skipped each time. The fourth and fifth attempts were flown slow, with extra attitude, and the LSO coached flight lead into a one-wire touchdown. The hook skipped all wires. Finally, from the ancient expertise of the Cat and A/G officer came the idea to place rolls of toilet paper under the wires, thus raising them 10 inches off the deck. Another slow, slightly low approach was flown, and the No. 1 wire was engaged, thus ending the saga of transpac A-6.

Skill and luck prevailed, saving an accident and all its attendant recriminations. Nevertheless, the potential for disaster was high, and we can't always rely on luck to pull us out of danger. Hopefully, this incident will be filed in the memory of those who follow and will help them to "break the chain" before the "accident that should have happened" becomes an "accident that shouldn't have happened." ◄

AIR BREAKS

One Hung Up. Lieutenant William R. Eason of VAW-121 was shooting approaches and touch-and-go landings in an E-1B when trouble developed. When he lowered the gear on his third approach, the port main landing gear light illuminated. A quick check showed the gear was still up although the doors were open. An attempt to raise the gear was made, resulting in all up with the doors apparently closing.

The gear was recycled many times in an attempt to get three down and locked, but the result was always the same. Attempts to release the port gear with G-loadings were tried unsuccessfully. Meanwhile, LT Eason headed for Norfolk and continued his efforts to lower the gear. The normal system was selected; then the emergency system was tried. Still no luck. On the third attempt, however, using the emergency system, the gear lowered and all safe indications were obtained. An uneventful landing ensued.

Investigation disclosed the port main landing gear outboard door assembly was not extending far enough to allow the gear to release from the J-hook. Further, during a dropcheck it was discovered that a bolt (P/N NAS 1104-17D, Fig. 134, Item 10, pg. 343 of the IPB) contained no nut or cotter pin. This allowed the bolt to work out of the door actuating cylinder and wedge between the horn assembly and the firewall. This also prevented the doors from completely closing.

A check was made to determine when work was last performed in the area; records disclosed no work had been conducted for 8 months. All of the other squadron aircraft were inspected, but none revealed the same discrepancy.

An intentional wheels-up landing was averted by LT Eason and his flightcrew because they were unwilling to give in to what appeared to be a hopeless situation. Good work, gents!

Aircraft SNAFU. It was 1130 local aboard an LPH when the 1MC blasted the announcement, "Man overboard, starboard side." The crew of the SAR CH-46 left their meals and hurried to their helo on the flight deck. The deck had just been spotted for test hops, which were the only scheduled flights for the afternoon.

When the SAR crew reached the deck, confusion occurred because the SAR bird was stacked in the aft pack. The pilots headed toward the pack to see what the holdup was. On the way, they saw the aircraft handling officer and asked him if he knew the reason for the delay. The pilots were told the SAR aircraft was on Spot 3. (The pilot thought it strange, but reasoned that either a new SAR helo must have been designated and he hadn't been informed, or the helo on Spot 3 had been designated as the airborne SAR for the afternoon's test hops.) Neither of these reasons later proved to be the case.

The pilots manned the new SAR bird and observed a crew chief and the QA representative readying it for launch. The presence of both these well known and respected maintenancemen helped ease the pilot's mind. The pilot asked if the book had been signed off and was assured it was. He sent one of the flight deck observers to maintenance control to bring up the book so he could sign off his portion – just to make things legal. After completing the checklist, they were ready to go.

Immediately after becoming

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airborne, the pilots noticed an instability in the yaw channel of the ASE (automatic stabilization equipment), but nothing too unusual, especially after reaching flying speed.

Ten minutes after hearing the "man overboard"call, they had launched; 10 minutes later they were back on deck safely with the survivor. They then decided to investigate the reasons for the aircraft mixup. It turned out that their "go" aircraft had been intended to be a test hop. It had been worked on that morning and required a test hop because the flight controls had been "broken." The original SAR bird should have been the aircraft to pick up the man overboard. The ball had been dropped early that morning when the SAR for the day was designated by ops and maintenance, but no one in flight deck control had changed the aircraft status board from the night before. So, it still showed the bird from the night before, which happened to be the one due to be test flown.

PEL Attaboy. While flying a formation day-nav solo flight, ENS Rex A. Schildhouse, a student naval aviator with a total of 105 flight hours, was called upon to demonstrate the soundness of training in emergency procedures.

After a touch-and-go landing in a T-28B, he was performing a running rendezvous on the rest of the flight. His RPM was set at 2400 with manifold pressures varying between 20-36 inches. He heard the engine start to wind up and noted 3000 rpm. Power was immediately reduced to 30 inches MAP and RPM settled at 2400. As ENS Schildhouse turned toward the field and started to set himself up for a PEL (precautionary emergency landing), the sump light illuminated. The pilot climbed to high key and executed a PEL at Laredo Auxiliary Airfield. He noted his oil pressure at zero, oil temperature pegged, and engine running rough. The chase pilot flew a low approach over the runway to warn vehicles of the landing. ENS Schildhouse landed on the left side of the runway to avoid obstructions.

Maintenance investigation revealed large amounts of silver and ferrous metal in the strainers, necessitating replacement of the engine.

This potentially catastrophic emergency was handled in a most professional manner. With no margin for error, the student pilot correctly assessed the situation and handled the emergency in flawless fashion. His accomplishment is particularly noteworthy in view of his limited aviation experience.

Additional credit should be given to the briefing officer who reviewed the flight route, emergencies, and available airfields, and to the chase pilot who assisted during the emergency. Well done to all concerned!

The Irony of It All. A *Harrier* was on static display at a civilian airport and was properly secured. All five seat and canopy pins were installed and four park rangers were guarding the aircraft. Their instructions were to prevent any of the hundreds of visitors from touching the aircraft. One further precaution had been taken: a strip of ordnance tape covered the external canopy jettison handle.

The pilot, when the show was over, conducted a careful preflight, removed the ordnance tape, and proceeded to operations to file. A young Marine NCO from a participating helicopter squadron attempted to open the canopy to "help" the pilot. The guards didn't stop him, assuming he belonged to the AV-8A support team, and knew what he was doing. He didn't.

The NCO opened the external canopy jettison handle, grasped it (clearly depicted by the yellow emergency illustration), walked away, and blew the canopy. No one was injured. The aircraft was protected from everyone except active duty folks. In the future, precautions will be expanded so that the tape won't be removed until the pilot enters the cockpit. ◄

Keep your eyes on the road!

By LT Gary W. Garland
VT-21

I HAVE often wondered why we in aviation circles seem to exhibit so little concern about midair collisions. How often in this safety conscious era do we hear aviators sitting around discussing techniques of midair avoidance? Not very often. Safety discussions usually center around our NATOPS manuals, aircraft systems, and emergency procedures. These are extremely worthwhile, but I wonder why we don't discuss midairs as well.

Aside from the unpleasantness of talking about a collision with another airplane, there are probably at least two reasons why we don't give more thought to midair avoidance. One is the "Big Sky" theory. This concept was developed by some sharp mathematician who computed the probability of two airplanes occupying the same piece of sky at the same moment as infinitesimal. As a result of the Big Sky theory, we may be lulled into a false sense of security.

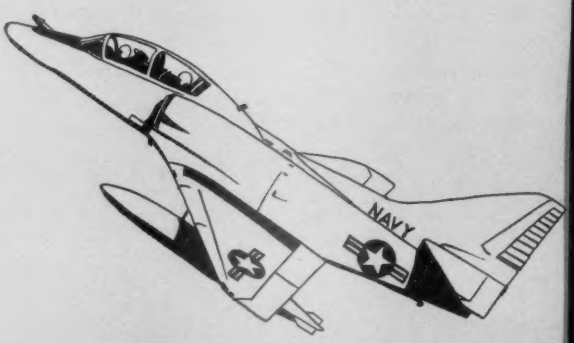
Facts seem to bely this theory, however. With all due respect to our slide rule brethren, we read the newspapers and various safety publications, and we know that midairs do, in fact, occur. Besides, I don't think the formula was tailored for those of us who intentionally fly in close company or out of necessity cram a large number of airplanes into a frighteningly small piece of sky due to limited airspace availability.

The second factor might be described as the "When It's My Turn" philosophy. Physiologists tell us that with the size, speeds, and accompanying closure rates of modern aircraft, there are situations where we simply can't react fast enough to avoid a midair even if we saw the other guy at max range. We are in an age of thin-winged, thin-fuselaged, area-rule-designed airplanes that are, quite simply, damn hard to see. It seems like the cards are stacked against us, and this knowledge fosters an attitude of "There isn't much I can do about it; if it happens, it happens." But we *can* do something about it.

First of all, we do have extensive positive air control. Added to this, we are given different cruising altitudes to fly east and west, VFR and IFR, and speed limitations. Unfortunately, this isn't enough. We must know these rules and adhere to them, but most of our flying is done in designated airspace where there is only a semblance of positive control. What's more, a variety of ACM, bombing, and acrobatic training that isn't compatible with cruising rules is usually going on at the same time. We have found that subdividing our areas helps somewhat, but we still stumble across the acrobatic hop in the ACM area. We get caught up in our mission and forget where we are. We get complacent and set ourselves up for a midair. Of course, we haven't even talked about the zillion *Cessna 150* drivers who don't know or don't care about "our" airspace.

So, ultimately, the key to the problem is "Lookout" doctrine. The simple concept of see-and-avoid and the techniques involved in successfully doing so are familiar to all of us. But in the execution of that doctrine, we run into at least two major obstacles/reasons that keep an aviator's eyes inside the cockpit more than they should be.

Perhaps the primary reason is that we are a generation of instrument pilots. The ever-increasing number of airplanes, the speed of modern aircraft, and many other factors have necessitated more detailed and stringent flying rules and regulations. A skipper of mine once told me, "I'm glad my career is almost over. They are making flying too damn complicated, and I just don't know if I'm smart enough to do it anymore." We have some incredibly complicated departures and approaches to get us into and out of high-density traffic areas. Add to this the precision flying demands of carrier aviation, and given the fact that machines are more precise than a *Homo sapiens'* measly five senses, and the result is we turn to our instruments. We become addicted to them because they are our world; they tell us all we need to know and allow us to wander our "footless halls of space" with the precision demanded of us



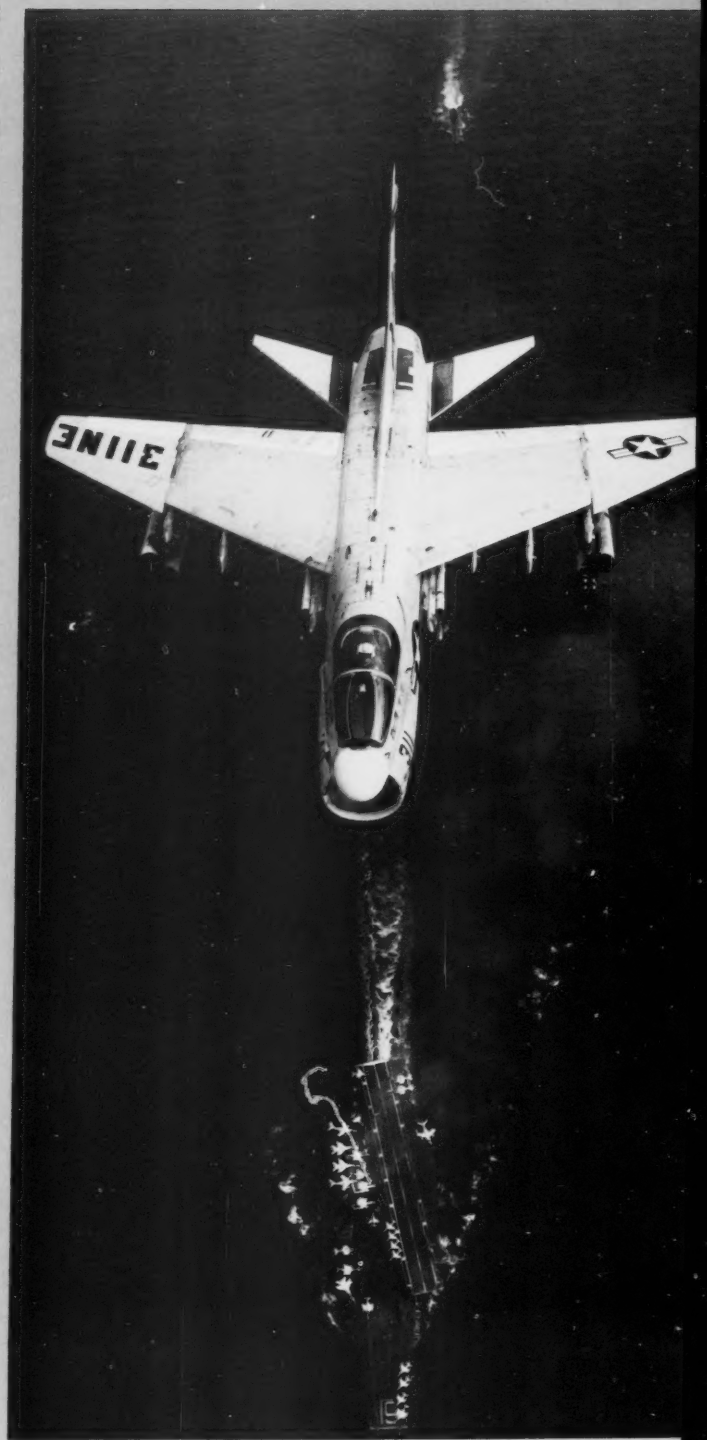
in the seventies. Like cigarettes, once hooked it is hard to quit.

The second major reason we probably spend more time inside our cockpits than we need to (or should) is simply pride. Aside from Mode Charlie, which has allowed "Big Brother" to see inside our cockpits, it is inevitable that most of our flights in multiplaced aircraft find the other seat occupied by another aviator, a guy you're sure is snickering a little louder with each additional foot of altitude you deviate from that assigned. Pride in performance is a good motivator, but there is an extreme. Nothing irritates me more than to be flying with another jock and watch him roll into 80 degrees angle-of-bank, pull 4Gs for 180 degrees of turn, and never lose a foot. No, it isn't jealousy. It is the knowledge that this guy is making a supposedly VFR turn using his AJB-3 and altimeter, and he isn't looking outside his airplane. Trying to impress me? Hey, fella, go ahead and look outside and lose 150 feet, but maybe next time you'll see the other airplane you missed by only 50 feet.

Pride is also a factor in the single-seat simulated instrument approach. I know it has been CAVU for a month, and today you, the single seater, are going to shoot that approach down to minimums without cheating and looking outside even one time because you really need the work. Pal, you are only cheating yourself if you *don't* look outside a few times – not to see where the runway is or monitor your progress, but to avoid a possible midair.

Once you look outside your cockpit, you must then use the correct technique in looking for other airplanes. You can't see them if your eyes are still focused at 18 inches (the distance to your instrument panel). Glance at your wingtip, the ground, or a distant cloud; get your eyes focused to infinity, *then* look for the other guys. It only takes a split second. Use a conical scan; don't fixate in any one area. *Don't* just look in front of you. Staring straight ahead is not a good visual scan. Get your flight surgeon into the squadron spaces, and let him give you his rainy day lecture on the mechanics of vision.

The messages should be clear. Yes, we need our instruments, our rules, and our regulations. We need a thorough understanding of NATOPS, and we must be able to maneuver our aircraft smartly through the air and put it where it is cleared to go. But that is not enough. Somewhere there is a delicate balance between an aviator's scan inside and outside the cockpit. To forsake one for the other is foolishness. All the NATOPS knowledge in the world won't help you when you find yourself flying half an airplane someday because of a collision. And nobody will much care if good ole John was right on altitude at the time of impact. VFR scan is in. Think about it, practice it, and do it!



Who's Controlling?

THE crew of a patrol plane was airborne on an ADL (airborne data link) mission in the land of mostly VFR conditions. However, that day someone forgot to turn off the shower, and while on station, they spent most of their time dodging the weather. When it was time to go home, they couldn't make it VFR. The weather was unusually bad with low ceilings, heavy rain showers, and multilayered clouds.

A call to Center was made when they were 050/45 from Homeplate. Center asked for a squawk and confirmed radar contact shortly thereafter. They were told to maintain 5000 feet, and vectors were given until about 5 miles north of the field. Then they were cleared to 3000 feet and told to contact GCA.

GCA confirmed communications, took control, and began giving vectors to position the aircraft on the downwind leg. The aircraft was in the clouds and rain most of the time. All was fine until a C-130 called GCA for a PAR from a position over the field, VFR on top, at 10,000 feet.

After the C-130 called, GCA checked with the tower and was told the *Hercules* had priority. The PPC was told to hold VFR. It didn't take the PPC long to advise GCA that his aircraft was in solid IMC, couldn't hold VFR, and he was descending to 2000 feet as directed.

GCA again checked with the tower and again told the PPC to hold VFR, that the C-130 had priority. The PPC became highly emotional but finally made his point. GCA continued the approach, and the PPC made a routine landing.

Readers won't have to be told there was a slight case of misunderstanding, a big case of fouled up communications, and a monster case of uncoordinated effort. Within a day or two, an investigation revealed the following:

- Center advised that they *meant* to hand off the patrol plane to the tower vice GCA.
- The tower didn't know GCA was working the patrol plane or where in the pattern he was and assumed he was VFR. The tower *meant* to hold the patrol plane over a beacon.
- GCA didn't advise the tower when he accepted the handoff from Center, and obviously didn't understand that the patrol plane was in the goo and couldn't hold VFR.

Like the tragic crashes of the TWA aircraft at Dulles and the C-141 into the mountains near Whidbey Island, this incident points out the importance of knowing where you are and what the terrain is below you when under radar control.

During the time the PPC was explaining to GCA why he couldn't hold VFR, the patrol plane traveled more than 10 miles downwind in mountainous terrain. Fortunately, their track was over water, but had it been either over or to the west of the field (toward the mountains), the result could easily have been an accident. The old axiom about priorities, "Aviate, Navigate, Communicate," certainly applied here.

The air station doesn't have radar, and GCA can handle only one aircraft at a time. This limited capability puts an even greater responsibility on plane commanders to maintain orientation and awareness.

A "Bearing" on Safety

By LT Bob Fritsch
PATWING 11

ONE morning several months ago, two P-3C aircraft departed Lajes AFB in the Azores for NAS Jacksonville. Taxi, takeoff, and climbout were uneventful for both aircraft. Setting cruise power, the crews settled back in anticipation of the long flight home.

Meanwhile, back at Lajes, ADJ1 George Mazur of Patrol Squadron TEN discovered a main landing gear bearing dust cover on the taxiway. After a short search, some wheel bearings were also found in the same vicinity. They were soon identified as P-3 wheel bearings, and by inspecting all *Orions* aboard Lajes, it was determined that the bearings were most likely from one of the P-3s which had departed early that morning. Both aircraft were notified enroute to NAS Jacksonville of the possible impending problem.

As the aircraft approached Homeplate, the pilots lowered the landing gear over the St. Johns River to preclude the possibility of a wheel falling off over land.

Tower fly-bys were authorized, and the first aircraft was visually inspected by tower personnel and crewmen aboard the aircraft. The first aircraft appeared normal and made an uneventful landing. The second aircraft, piloted by LTJG Rich Cunningham of VP-45, was inspected in the same manner, and the dust cover on the port inboard wheel was determined to be missing.

As the field was being prepared, LTJG Cunningham briefed his crew on crash landing procedures. The flight station was briefed to stand by to feather the No. 2 engine in the event the wheel separated from the mainmount on touchdown or rollout.

The P-3 made a normal touchdown on the right side of the runway in case a swerve developed. Fortunately, the rollout was uneventful, and by judicious use of reverse power, the aircraft was brought to a safe stop and secured on the runway.

LTJG Cunningham and his crew, through expert crew coordination, effective use of outside help, and thorough application of NATOPS procedures, handled a potentially serious emergency in a most professional manner. The result was an undamaged valuable aircraft, and more importantly, the safe return of those aboard.

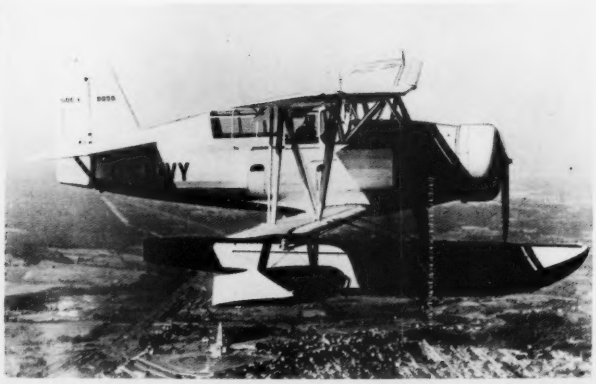
The key person in preventing this accident, though, was the man that originally discovered the missing dust cover. A "Well Done" goes to ADJ1 Mazur for his alertness, quick thinking, and initiative in taking the necessary steps that quite possibly prevented this incident from becoming an accident.

Pilots: Be Suspicious!

HAVE pilots become too complacent these days in accepting information, advice, and direction from the many people with whom they come in voice contact? Do they accept as gospel that which should be taken with a grain of salt?

One is reminded of the "early days" in aviation when the pilot was personally involved in everything about *his* aircraft. He watched/helped/supervised most of the maintenance, fueling, modification, etc., on *his* aircraft, and only he tested *his* aircraft after work had been performed. *He* was the only one responsible for his aircraft avoiding others. And *he* was the only one responsible for navigating to his destination, clear of obstructions.

Pilots then were skeptical about anything they were told. They weren't insulting, but they looked, asked questions, demonstrated they cared, and were emphatic that discrepancies were made right. Their attitude was "everyone's trying to kill me!" Lots of pilots are alive today because of that philosophy.



Times have changed. We have a whole host of "experts" and specialists who are accustomed to not having their word questioned, and some even become resentful when challenged. This is not good! After all, pilots do goof and so do the "experts." The "experts" have the same personal problems. They are subject to pressures in their jobs. They suffer fatigue. They forget. These "experts" are just people and they err also. It isn't out of order for pilots to be dubious, or question, or challenge an "expert" when they do not understand an explanation, a briefing, or a clearance.

There have been a rash of incidents lately in military and civil aviation in which human error has resulted in accidents or near-misses. One civilian near-miss was almost a major catastrophe. The two airliners were on opposite courses. One was climbing through the altitude of the other, and as luck would have it, the pilot of the climbing aircraft spotted the cruising aircraft just in time to dive away and miss by maybe 100 feet. Many passengers were injured by the sudden maneuver, even though the seatbelt sign was on.

At a west coast naval air station, Navy aircraft have been involved in several near-midairs with civilian aircraft in a short period. A couple of the civilian aircraft were under positive control, and all near-misses occurred in limited VFR conditions.

An Air Force transport, inbound to Homeplate, was given a descent clearance meant for another aircraft and crashed into a hillside. Similarly, everyone knows about the airliner that impacted a hill on an approach because the pilot incorrectly thought his clearance permitted him to descend.

The volume of traffic at various high-density airports has caused many conflicts between taxiing aircraft and aircraft on takeoff.

Pilots must remember that the instructions and advisories they hear on the radio are not emanating from some divine individual. A healthy dose of skepticism is one key to longevity. ◄

Capt Bruce L. Harjung and his copilot, Capt Rance L. Nymeyer, in their VH-1N saved a lost, light, civil aircraft pilot by an . . .

Unselfish Flight Assist

CAPTAINS Harjung and Nymeyer were eastbound, VFR on top, in their VIP *Huey*, headed for Quantico. Over the Allegheny Mountains, they overheard a civilian pilot receiving assistance from Washington Center. The *Piper* pilot was lost, above the overcast, low on fuel, and wasn't instrument-rated.

The Marine pilots were in the general vicinity of the lost pilot and immediately volunteered their services. Washington Center had both aircraft in radar contact and provided vectors for a visual rendezvous.

Once contact was made, the Marines quickly communicated with the civilian pilot, who was told to join, stepped up and in trail. Since the civilian aircraft was operating on fumes, the helo pilots decided an immediate formation descent was the only solution.

Luckily, a break in the clouds gave them an opportunity to try a VFR descent. During the descent they did lose sight of each other, but the *Piper* maintained heading, continued descending, and regained contact beneath the overcast. A quick, direct route to the Elkins, WV airport was made, and the civilian pilot landed safely just before fuel exhaustion.

Washington Center Chief, Angelo E. Viselli, sent a letter of appreciation to the CO of HMX-1 for Capt Harjung's assistance. It read: "This act of unselfish, outstanding, professional assistance should be rewarded. Due to Capt Harjung's help, a serious, possibly fatal accident was avoided. It is a pleasure to express our deep feeling of gratitude to Capt Harjung for a job well done."

The point that will impress readers more than any other is that Washington Center, Clarksburg tower, Elkins FSS/tower, and Nighthawk 3 never stopped trying to help the lost *Cherokee* pilot. The coordination between all agencies, including the State Police, was fantastic.

Various Flight Logs

CKB: Clarksburg EKN: Elkins ZDC: Washington Center

CKB	1428	N2725R on top Clarksburg area, position unknown.
EKN	1429	N2725R, *Cherokee,* last known position near Kessel, 7300 feet, lost, low on fuel, wanted to land at Elkins. Pilot didn't know how to work his radios.
CKB	1430	Declared emergency for N2725R.
ZDC	1430	Advised N2725R, radar contact, 12 east of Elkins. Elkins weather: 2500 scattered, 3400 broken, 7 miles in snow showers. CKB tried in vain to get pilot to switch to ZDC frequency.
CKB	1449	Nighthawk 3 (the Marine *Huey*) checked in and offered assistance. He was 27 east of Elkins, 9500 feet on top. CKB instructed Nighthawk 3 to switch to ZDC.
ZDC	1450	Nighthawk 3 checked in and was given N2725R position. Nighthawk 3 contacted N2725R.
ZDC	1515	Tried to guide N2725R to Elkins. N2725R had 8 gallons of fuel left. Elkins weather: Indefinite 900, obscured, 1 mile in snow showers.
CKB	1520	N2725R reported about 5 gallons left, not enough to reach Elkins.
EKN	1525	Coordinated with State Police to close State Highway 33, 4 to 8 miles east of Elkins for an emergency landing.
EKN	1535	N2725R reported over the mountains at 5000 feet, had ground contact.
EKN	1536	Nighthawk 3 reported over the city of Elkins with N2725R; airport in sight; N2725R had no fuel remaining. Elkins weather: Indefinite 600, obscured, one-half mile in snow showers.
EKN	1550	N2725R safe on the runway at EKN. Nighthawk 3 proceeding to Quantico. Elkins weather: Sky partially obscured, 2500 broken, 3 miles in snow showers.

BRader

The LSO Phase One School

By LCDR Mick Sumnick
Officer in Charge

IN the past, LSO training and qualification was largely the result of on-the-job training. LSOs did attend a brief formal school after they had been identified as LSO prospects, but it was rather limited in scope. Recently, however, the cutback in operating time has made it very difficult to adequately train and qualify LSOs in the traditional manner, a subject well covered by LCDR George Webb's article, "LSOs – An Endangered Species?" in the OCT '75 APPROACH. To attack the problem, several recommendations were made at an LSO conference held in the fall of 1973. Among them was the LSO Phase One School.

The LSO Phase One School was designed to train the entire LSO community, with an expanded syllabus and earlier identification of prospective LSOs as the primary considerations. Identification of prospective LSOs prior to designation as LSOs is desirable in order to take advantage of possible Phase II and III training at the RTS (replacement training squadron).

The Phase One School is at Training Air Wing SIX aboard NAS Pensacola and has been operational under the cognizance of Chief of Naval Air Training since 1 July 1974. The normal monthly class is attended by naval aviators from AIRLANT, AIRPAC, CNATRA, Marine air wings, and occasionally from foreign countries. To date, 20 classes have been completed, and a total of 351 LSOs have been trained.

The staff consists of an ex-air wing staff LSO as officer in charge, a first tour training-qualified LSO as assistant, a Marine LSO, an ABEC, and a yeoman. The present OinC is an east coast fighter type, while the assistant is a west coast attack LSO – a coast/community split which will be maintained.

Under the new program, motivated students are counseled on LSO duties and career patterns by their training command squadron's LSO, prior to advanced carrier qualification. Volunteers showing LSO potential are then recommended to CNATRA. After designation as naval aviators, they receive orders as ready replacement pilots via LSO Phase One School. Upon completing this, the prospective LSO reports to the senior LSO at his replacement training squadron for initial Phase II (field) and some Phase III (carrier) training.

Upon completing the RTS syllabus, the nugget will be detailed to a squadron which needs an LSO trainee. Phase II and III training is continued under the air wing LSO.

The LSO Phase One School syllabus exposes the students to technical and practical facets of LSO training. The subjects range from the inner workings of the Fresnel Lens System to techniques of debriefing a pass. Special emphasis is given to an in-depth look at all applicable publications. Field trips ashore and afloat are included so students may observe actual equipment and operations.

Feedback from RTS and Fleet units indicates that the consolidation of Phase One LSO training and earlier selection of prospective LSOs is a "better idea" which appears to be working. Cases sighted include "nuggets" receiving extensive Phase II and Phase III training while undergoing the RTS syllabus and reports from Fleet units indicating squadron qualification upon completion of one 6-month cruise. The Phase One LSO School appears to be one important aspect of a total program to ensure highly qualified LSOs continue to man the LSO platforms. ◄

DR or DA?

By LTJG C. S. Young
VP-44

A COOL, crisp morning prevailed for another piece-of-cake P-3 deployment transit. We had a zero-dark-thirty takeoff time, FL190 assigned, for Lajes. It would be a 6-hour flight. Strictly "no sweat."

The yellow sheet indicated a minor radar gripe and a couple of TACAN 40-degree lockoffs. No big problem, though, as the NAF has a strong TACAN and the weather was good with nearly unlimited visibility. Preflight was completed and no other discrepancies were found. All signs pointed to an easy flight. The pilot had great confidence in his navigator, and immediately after takeoff, found a comfortable position for the flight's duration.

Our HYN (hot, young navigator) took charge over the last point of land and the crew settled down for a few hours. As they stormed towards Lajes, Loran A became weaker and weaker; Loran C was no joy; and the sun, just rising in the east, gave only speed-line information. Problems? No way. The doppler was up and operating; wind readout compared favorably with the HYN's no-wind solutions. Could anyone get lost who *knows* the wind? As it turned out, the HYN was also UP and LOCKED.

He decided to DA (drift angle) navigate. Both airspeed and drift angle are available in the P-3, and combined with true heading and TAS, the wind is the vectoral resultant. Unfortunately, no mechanical system is always perfect. This is a risk run by the DA navigator. About an hour out of the western-most island, fixing had been generally poor. However, the doppler was still operating, indicating 9 degrees left drift and a wind of 230/65 knots. The HYN's no-wind solution was 280/20 knots. Hmmm, a discrepancy. Also, the forecast winds had been given as 300/20 knots. Instead of 9 degrees left drift from the DA, which the HYN was using, the DR and forecast winds should have been about 1 degree left drift.

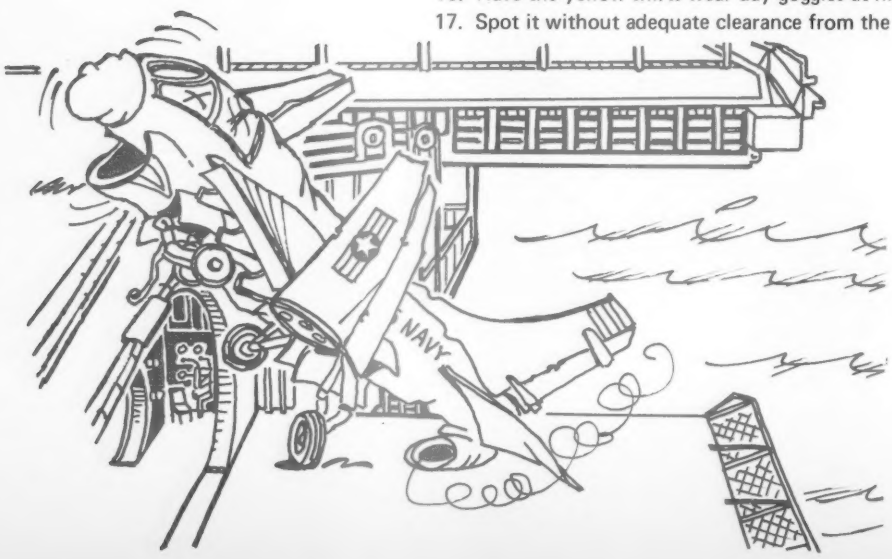
Unperturbed by these discrepancies, the HYN confidently strolled to the cockpit to hear the applause, as he expected the first island in the chain to appear dead-ahead. As the ETA came and went, he assured everyone that the island would show any minute and confirmed his belief with a weak ADF signal on the nose. A broken cloud layer at 8000 feet prevented a visual sighting, and the HYN assured all that the land must be obscured by clouds. Fortunately, the PPC no longer shared the navigator's confidence and checked the HYN's charts and winds. He noted the 90-degree/40 knots difference between the doppler and forecast winds, and altered heading.

Meanwhile the HYN's smile disappeared as he scurried from window to window, hoping for a glance of the illusive island. The ADF pointed the same direction as before and was recognized as meaningless. The PPC fired up the TACAN and watched as it tumbled into a lock-on at 040/140 DME. A thoroughly confused HYN announced it *must* be another 40-degree lockoff, but the PPC, wise in his ways, altered heading to 040. Land was sighted about 10 minutes later, confirming the TACAN position. The heading recommended by the HYN would have caused the aircraft to miss the island chain completely.

This was another example of a sad story for the DA navigator. When navigating over long distances, headwork must prevail. If both the no-wind solution and forecast winds concur, play the odds and use them. The doppler is great but can never take the place of headwork and good, solid, basic DR navigation. Forecasters are paid to give the best information possible, so don't disregard the information. Worse, don't become just a DA navigator. ◄

Thirty ways to

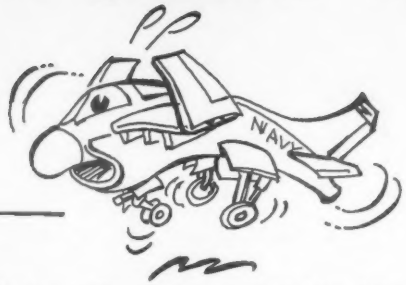
1. Don't pump up the brakes before towing.
2. Open the canopy in high winds without attaching a line to the cleat.
3. Disconnect the tow bar before chocking and tying down the aircraft.
4. Leave the canopy open.
5. Spot it with the UHT under the droptank of an adjacent aircraft and turn it up.
6. Taxi it behind the JBD with wings folded while launching another aircraft.
7. Spot it on the bow without installing jury struts.
8. Fold the wings with a high crosswind.
9. Let a nonqualified person be the brake rider.
10. Make hard turns while taxiing into final spot; you can break the dog bone in the nosewheel steering.
11. Spot it close to the elevator edge and raise the stanchions into the tail cone.
12. Tow aircraft on deck without a safety observer.
13. Attach SD-1D spotting dolly to the aircraft, don't raise the nose, make a sharp turn, and knock the nosewheel doors off the hinges.
14. Have the plane captain rely on the emergency brakes to stop the aircraft.
15. Have the yellow shirts wait until the last second to blow the warning whistle – the momentum will do the job.
16. Have the yellow shirts wear day goggles at night while directing aircraft.
17. Spot it without adequate clearance from the missile launchers.



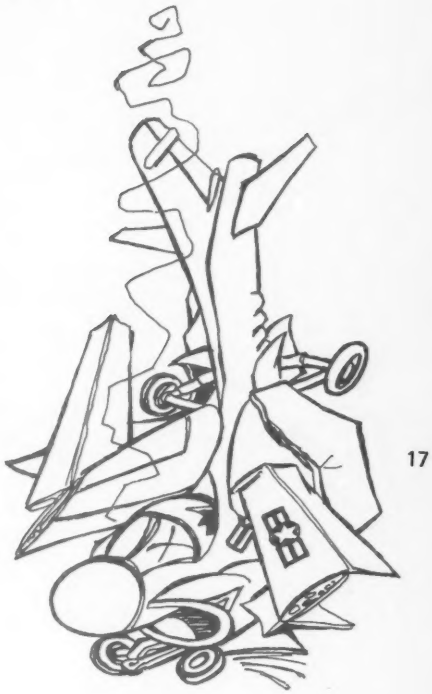
crunch an A-7

(or any other type of carrier aircraft)

By LCDR Jim White
LATWINGONE ASO



18. Have yellow shirts get out of sight of the tractor driver.
19. Attempt to work on aircraft when they are being towed. The A-7 will win on this one; your legs will lose.
20. Don't use an inlet screen during maintenance turns. (Both people and engines have lost on this one.)
21. Spin aircraft out of the middle of the A-7 line with an uphill list, and the jet blast will break the nosewheel door of the adjacent aircraft.
22. Have plane captains or chock walkers position themselves ahead of the mainmount while moving aircraft. The A-7 wins this one, too!
23. Tie all the tiedowns tending aft or forward.
24. Use excessive towing speed in order to make the next launch.
25. Tie the chains from the aircraft spotted on deck to the elevator padeyes.
26. Spot the aircraft on the elevator with some portion of it overhanging the deck edge. This works on the way up, too.
27. Disconnect the static ground lead with power still applied. (A-7 wins again!)
28. Spot it with some portion of the aircraft in line with the hangar bay or elevator doors.
29. During a maintenance turn, don't check the clearance of the wings from adjacent aircraft.
30. If all these fail, just drive a tow tractor into it and claim the brakes didn't work.



Blood Fat and the Fighter Pilot

By LCDR Gary Smith, MSC
NAS Norfolk

High blood fat levels increase blood pressure and the chance of heart attack. An overweight condition also decreases G tolerance, to say nothing of detracting from your physical appearance and general feeling of well-being.

IT was close to secure time when I heard an urgent knocking at my office door. In response to my "come in," a very nervous, pale safety officer from one of the local fighter squadrons walked in, sat down before me, and shakily lit a cigarette on his third attempt.

His voice quavered as he said "I've just been in for my annual physical, and they told me that I have a high level of cholesterol and triglycerides in my blood! What does it all mean? Am I going to have a heart attack? Is my G tolerance decreased? God forbid if an attack pilot should get on my six. Are the dollies going to stop admiring me? What can I do to get 'normal' again?"

After quieting the forlorn figure, I managed to question him about some background details. LCDR Safe was his name, and he had requested that his blood fat level (cholesterol and triglycerides) be measured during his recent physical. This is normally done only to persons over 40, but the test is available to anyone on request. I could have guessed that his blood fat level was slightly high just by looking at the love handles around his hips and by seeing the exertion he had expended walking over from the dispensary.

I tried to reassure this distraught aviator that his slightly overweight condition did not indicate impending death. Nevertheless, many of his fears were grounded in fact. High blood fat levels *do* increase blood pressure and chance of a heart attack. An overweight condition *does* decrease G tolerance. Excess weight *does* detract from your physical appearance and general feeling of well-being. Perhaps even more importantly for a pilot, poor physical conditioning decreases the aviator's ability to respond to the demands of the modern aviation environment in the most professional manner. Obviously, physical fitness, particularly cardiovascular fitness, and a normal blood fat level are of great importance to everyone, particularly those of you involved in high performance aircraft.

Fortunately, I had just prepared a lecture on the topic, so I was able to give LCDR Safe some information. In attempting to answer his question about what he could do to get back to "normal," I first went into the logical question of why his previously fit body had deteriorated to its present position. Basically, there are several factors that account for this.

Affluence. As most of us approach our late twenties, we reach the "affluent stage." We have worked hard physically up to this point – high school, college, training command, first tour. All these activities demand or impose some sort of physical conditioning on us to keep us in fairly good shape. Now things are slowing down. We are "comfortable" with the flying we do, we've got a desk job (a place to sit all day), we have just purchased a new house and it's relaxing to go home and have a pre-dinner drink, enjoy a nice meal, and watch the tube in the evening. Affluent American – ain't it great! Unfortunately, for your body, it isn't! About the time in life you reach "affluence," your body begins a physiological slow-down. At a time when we need conditioning most, many of us stop.

Blood Pressure. As you "slow down," you'll notice an increase in weight with an accompanying increase in blood pressure. Not good!

Heredity. Think about your family history. Is there a history of heart or cardiovascular problems? If there is, chances are you are more susceptible to these problems. By not maintaining your cardiovascular fitness and failing to watch your diet, you only increase the possibilities of heart problems.

Sex. Here female pilots finally have an advantage over the men. The hormonal makeup of males under 45 years old predisposes them to heart/circulation problems to a greater extent than females of the same age. We males have to work harder to keep cardiovascular fitness than do the ladies.

High fat diets. The American diet, unlike that of many other countries, is oriented towards high-fat foods. Some of these fats eventually end up in our blood vessel walls as cholesterol deposits, and this can be directly related to heart/cardiovascular troubles later in life.

Smoking, excessive alcohol consumption, and undue fatigue only make the above mentioned items worse.

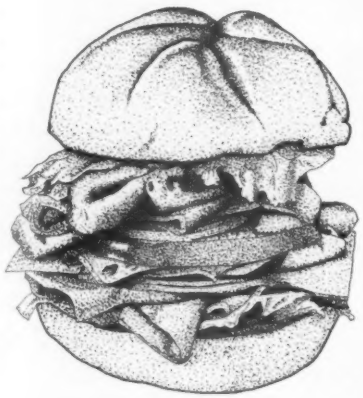
I hoped I had made it clear to my friend that these problems were mostly associated with excessive fat in the bloodstream (and in turn in the blood vessel walls) and with a general degradation of overall conditioning (especially cardiovascular). Therefore, I emphasized to him that these were the areas where he would have to improve.

"Gee, does excessive fat in the bloodstream mean I have

to give up 'steak and brew night' at the club forever?" moaned the disconsolate aviator.

"Not necessarily," I replied. While I did point out that dietary fat did need to be watched and controlled, we shouldn't condemn fat altogether, as it does have beneficial aspects. We require a certain amount of fat in our diets to maintain normal tissue/cell structure, for lung elasticity, for mechanical and electrical insulation of nervous tissue, for energy (fats have twice as many calories per gram as protein or carbohydrates), and, of course, a little fat in our foods makes the food more palatable. The fats in the bloodstream are in the form of triglycerides and cholesterol. Triglycerides are mainly a problem for extremely overweight people and do contribute to cardiovascular degeneration. But for most of us who are average in body build and metabolism, it is cholesterol that creates the largest problem. That is what I wanted to emphasize to LCDR Safe.

Cholesterol is derived from two sources: externally from the foods you eat and internally from your body manufacturing it in response to certain fats in your diet. The more of a certain type of fat (called a saturated fat) you eat, the more cholesterol you produce internally. This is subsequently released into the bloodstream. This internally produced cholesterol causes us the most problems.



Cholesterol in the blood vessels narrows the center of vessels, which reduces the amount of blood and oxygen that can get to the tissue requiring it most. This in turn causes an increase in blood pressure. Additionally, the cholesterol deposits create a "rough" surface for the blood to flow over, which can lead to the formation of clots in the blood vessels which could restrict or completely stop blood flow in certain areas.

So, the problem with high cholesterol levels and cholesterol deposits in blood vessel walls could be significantly reduced by lowering the amount of saturated fats we consume or by substituting unsaturated fats for the saturated fats in our diet. By replacing the saturated fats with unsaturated fats (a fat that does not have all its molecular carbon bonds satisfied) in your diet, you can lower the internal production and amount of blood cholesterol significantly. Table 1 gives you a pretty good working concept of the foods that contain unsaturated fats.

"OK, Medical One," the fighter pilot interrupted, "all this information is nice to know, but what's a normal cholesterol level for me?"

I could have told him that blood cholesterol levels at or below 200 milligrams per 100 cubic centimeters of blood was "normal," but this wouldn't be too meaningful to him since it requires a laboratory test to determine this level. An easier, less painful, and more expeditious way to determine normalcy is to estimate, through a simple exercise called the "Pinch Test," what percentage of your total body weight is made up of fat. Body fat of 15-21 percent is normal for males; 25 percent for females (for obvious reasons). The test is very simple and consists of the following steps:

1. Pinch up a fold of skin and fat along the back of your upper arm over the triceps muscle.
2. Do not include the muscle itself – just skin and fat.
3. Remove your fingers, maintaining the measurement.
4. Measure the space between your fingers with a ruler.
5. If you have more than an inch of combined skin and fat between your fingers, then you probably have a higher than normal body fat and blood cholesterol level.

As my fighter pilot friend buttoned his shirt after completing this test, I could tell by the chagrined look on his face that the gap between his fingers had measured about the same as the head on the beer he drank during Happy Hour.

"So what do I do now?" he implored. "I agree that I'm above normal for blood fats, and I want to do something about it."

My answer was simple: "Diet and exercise."

According to the American Heart Association, physical fitness enables a person to work or exercise vigorously for a long period of time without fatigue. It also enables a person to respond to sudden physical and emotional demands with "economy of heartbeats" and only a modest rise in blood pressure. A physically fit individual is able to supply more energy/oxygen to his muscles so they can work harder and longer.

"But I play golf every weekend," claimed the safety officer. Doesn't that count for something toward physical fitness?"

Unfortunately, the answer is "not much." Ironically, only certain types of exercise, performed regularly, can result in the type of fitness described above. Many athletes who possess tremendous motor skills and muscular strength may not be cardiovascularly fit. And for those of us in naval aviation who are no longer competing in active sports, it's cardiovascular fitness that's most important.

Reducing Blood Fats
Dietary Guidelines

Low in Fats	High in Fats
• Skim milk and low-fat dairy products.	• Saturated fats (solid).
• Fish.	• Beef, pork, eggs.
• Lean meats, veal, chicken, turkey.	• Shellfish (lobster, shrimp, crab).
• Polyunsaturated margarine; vegetable oils (corn oil).	• Whole milk, cream, ice cream, nondairy creamers.

Table 1

"Well, if golf's not good for cardiovascular fitness, what sport is, and how do I know if it's doing me any good?" was my friend's next question. And a fair one. I tried to explain it to him in terms of aerobics.

We've all heard that term a lot in recent years. What is it? Basically, aerobic exercise means that the heart and cardiovascular system provide a steady supply of oxygen to the exercising muscles for as long as the exercise is continued. If the exercise becomes so strenuous that the heart cannot supply the muscles with the oxygen they demand, then an oxygen shortage is incurred and the exercise becomes anaerobic (without sufficient oxygen). Remember when you were in school how sore your muscles would get at the beginning of football season? This was mainly because the exercise you were doing was anaerobic. Sore, aching muscles and undue fatigue aren't necessary if your exercise is kept aerobic. (I could tell that was the first thing I told the pilot that he liked!)

How much aerobic exercise is sufficient? For the exercise to be adequate, a person should exercise at 60-80 percent of his maximum aerobic power. Maximum aerobic power is a point where our heart and circulation cannot deliver any more oxygen to the exercising muscles without approaching exhaustion (or the exercise becomes anaerobic).

LCDR Safe's next question was predictable.

"How do I know when I'm at the 60-80 percent maximum aerobic level without a lot of fancy laboratory apparatus?" Good question, but fortunately I had an answer for him.

At just about the same time you reach your maximum aerobic level, the heart becomes unable to beat any faster. By exercising until your heart rate reaches 70 percent of its maximum rate, you will have reached 60-80 percent of your maximum aerobic level. So if you can take your pulse

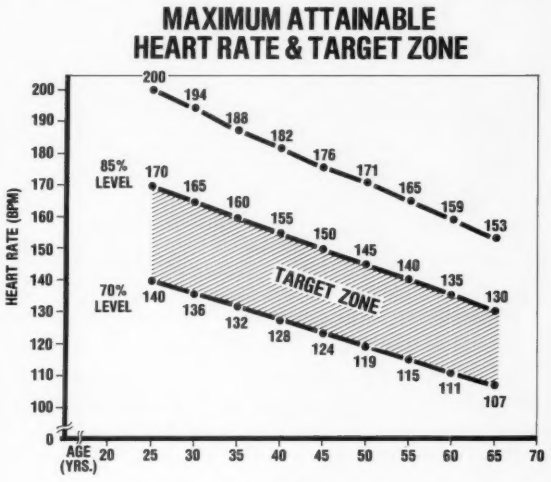
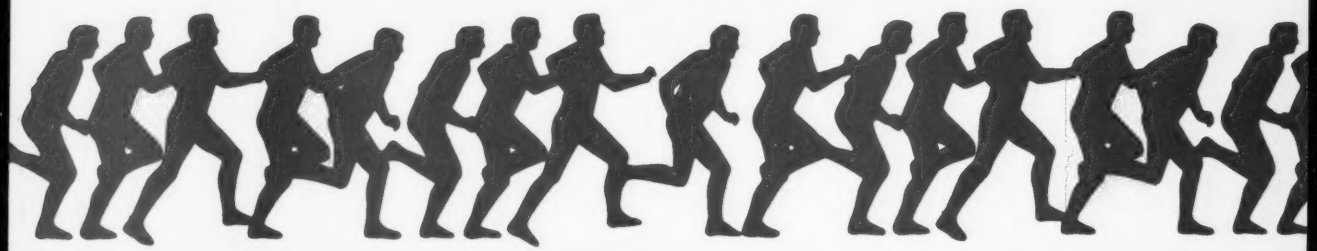


FIG. 1

(heart rate) and can read a watch, that's all the laboratory equipment and expertise you need.

My patient's next question was, "What is my maximum heart rate?"

A look at Fig. 1 will give you an idea of what the maximum heart rate is for a specific age group. It also shows the 70-85 percent "target zone" that is necessary to reach for aerobic conditioning. For the majority of us, somewhere between 140-160 beats per minute would do it. (Note: When taking your pulse, it's best to monitor it for 10 seconds and multiply the number times 6. Don't count



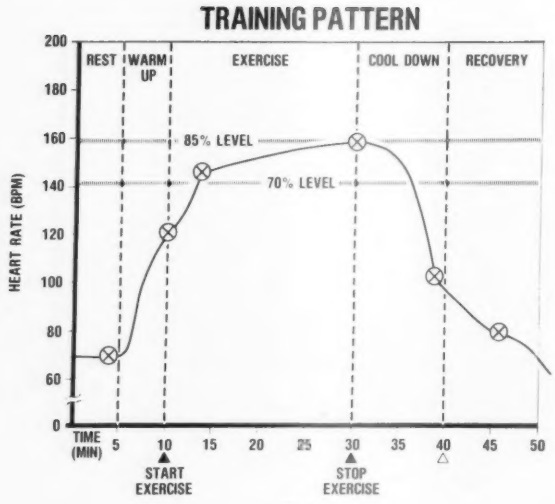


FIG. 2

for a whole minute, as the pulse rate slows too fast to give you an accurate count.)

To be effective, the exercise must be done continuously for 20-30 minutes; that is, keep the heart rate in the 140- to 160-beat range for this period of time. Allow 5- to 10-minute warmup and recovery periods. Figure 2 gives you a profile of a routine exercise pattern. The exercise should be done at least three times a week with no more than 2 days elapsing between workouts.

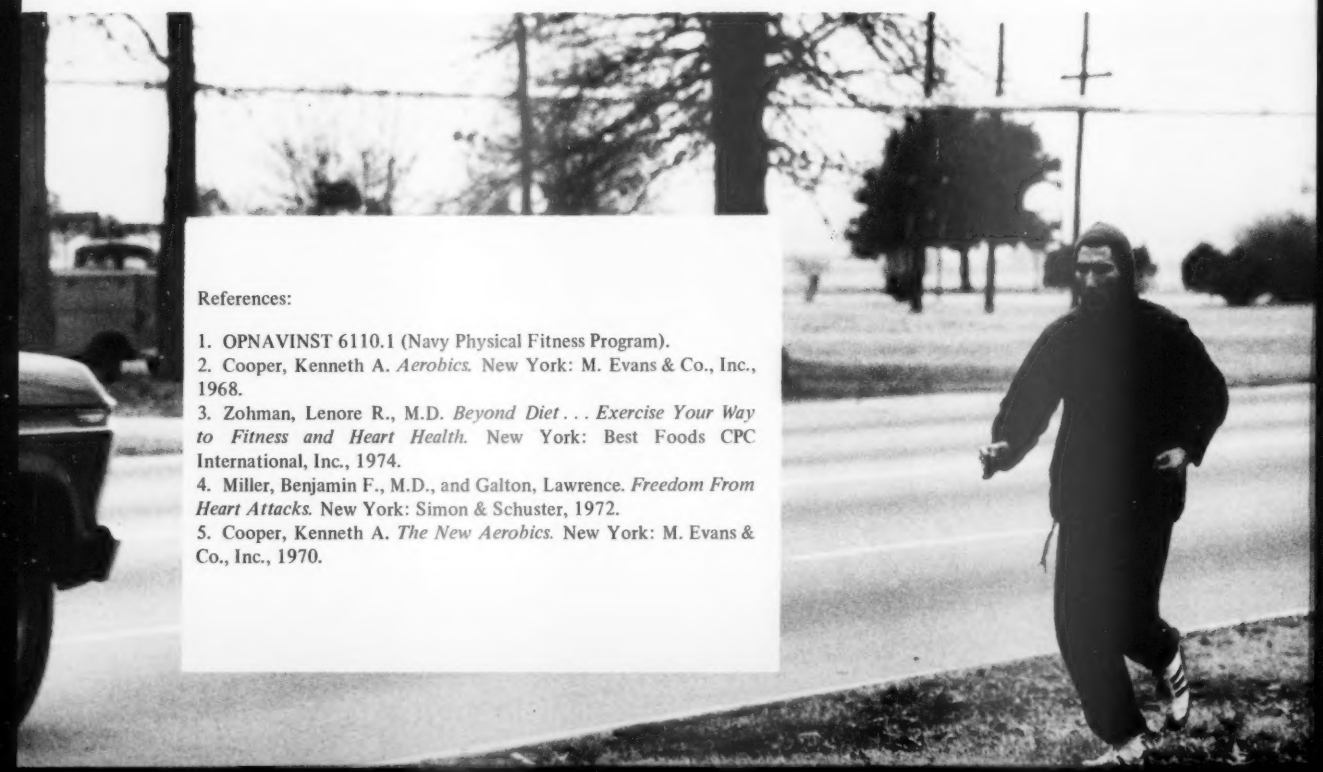
I could tell that the LCDR was less than enthusiastic about the prospect of undergoing what to him must appear obvious pain and suffering. I tried to encourage him by pointing out that at the end of a few weeks' time, he would notice a decrease in his resting heart rate, indicating cardiovascular system response to the conditioning program. More blood and oxygen is being pumped per beat; therefore, fewer beats are required.

In recommending a sport for him to get into that would promote cardiovascular fitness, I emphasized that any rhythmic, repetitive, dynamic (constant moving) exercise is good. Examples are running, swimming, jumping rope, bicycling, etc. Any of the literature sources referenced at the end of this article can provide information on different types of exercise and their values as aerobic conditioners.

"Gary, you're absolutely right," concluded my fighter friend as he got up to leave. "I'm going to watch my diet and start an exercise program. Then I'm *really* going to be the meanest mutha in the valley."

I felt a measure of satisfaction as I watched him leave; I thought he had gotten the point. But then, "Oh, by the way, Doc, are you coming to the Surf and Turf going-away dinner tomorrow? All the crab and roast beef you can eat plus unlimited beer to wash it down."

Well, you can always tell a fighter pilot . . .



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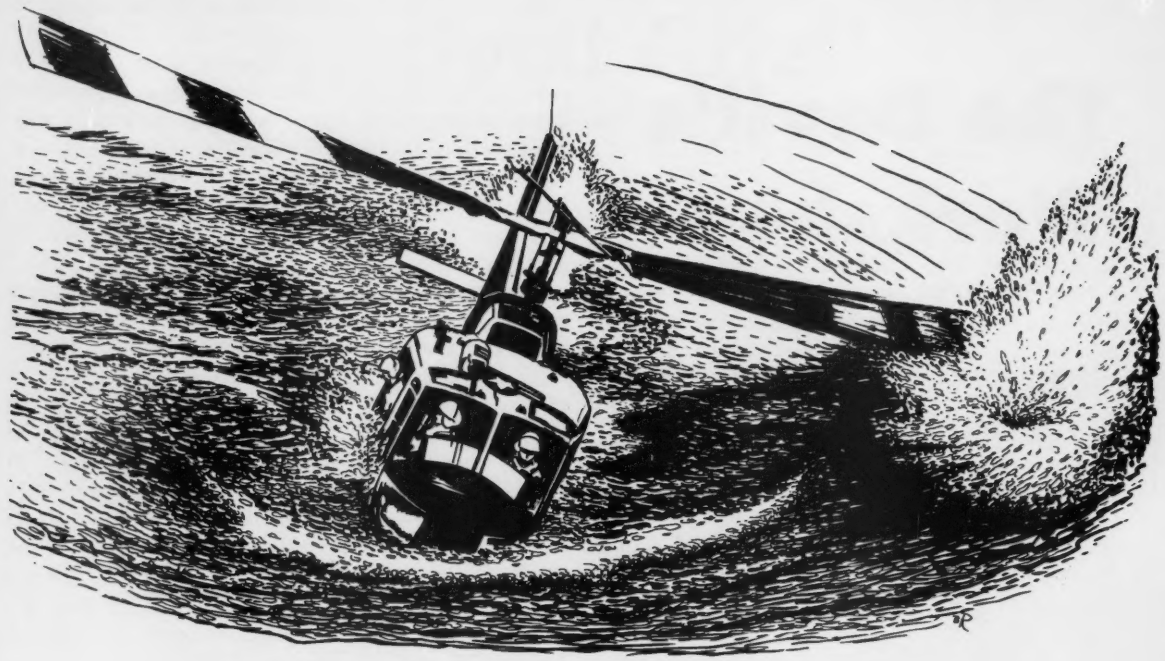


LIKE A PRO

IT started out like any ordinary helicopter training flight. The weather was ideal, unlimited ceiling and visibility, and a pleasant 10-knot breeze. LT Robert Stevens, HAC, and ADJ3 Dennis Bywater, plane captain, thoroughly briefed all personnel aboard the HH-1K on procedures and emergency bills. Each passenger was checked for proper flight and survival gear and their knowledge on how to use them. Preflight and departure checks were routine.

The helo was air-taxied to the centerfield pad and departed to the north over the Bay Bridge. After passing Treasure Island at 1000 feet, LT Stevens turned over control to his copilot and recommended a descent to 500 feet as they proceeded up the Bay channel. The copilot commenced a descent and gentle left turn. As he passed through 800 feet, a clunk was heard and a right yaw experienced. Warning lights appeared on the advisory panel and both power and RPM began to decay, indicating an engine failure.

LT Stevens took control, broadcast his location, and gave a situation advisory to Alameda tower. An abbreviated airstart was attempted without success, and their altitude precluded anything else except concentrating on a water ditching. Petty Officer Bywater warned the cabin occupants that an emergency water landing was imminent and to be prepared to evacuate the helo after landing. LT Stevens proceeded with the autorotation, turned into the wind, and flared the helicopter into an extremely smooth water entry. Petty Officer Bywater started the passengers' evacuation as the helo slowly rolled into an inverted position.

Upon surfacing, the crew immediately took a head count and determined that all occupants were out and afloat. Noting that some were having problems with their flotation gear, the crew assisted in getting the gear properly inflated. One passenger experienced difficulty in staying afloat, and LT Stevens calmed him and assisted him into one of the two LR-1 liferafts that Bywater had brought out of the sinking helo.

Eventually, all six persons were stable and grouped in and around the liferafts. A passing tugboat maneuvered into position and recovered all hands – just about 20 minutes after ditching.

The planning, preparedness, and leadership of LT Stevens and Petty Officer Bywater prevented this emergency from becoming a disaster. LT Stevens' airmanship in executing a flawless autorotation and Bywater's knowledge and performance of cabin duties made possible a successful ditching and evacuation without injury.

APPROACH salutes these pros! ◄

The Devil's Workshop

By LCDR Russ Harrison
VAQ-130

DO you believe in the supernatural? Do Bigfoot and the Loch Ness Monster really exist? What about the mysterious Siren's call of the Bermuda Triangle? If you believe in these, it might be easier to understand why an experienced, highly reliable naval aviator suddenly performs a very immature act which results in the loss of an aircraft – or what is worse, the loss of his life. Maybe if he were alive to answer that question, he'd give a sheepish grin and say, "The devil made me do it." And who knows, he might be right!

Remember the old saw that an idle mind is the devil's workshop? Well, with the introduction of automated, time-saving systems and increased restrictions on military flights, the opportunities for boredom abound. Picture an aircraft on a SSSC (surface ship surveillance control) mission where there are very few contacts. Or visualize the aircraft flying the same old instrument route out of Homeplate. Let's face it; they're just plain boring. Perhaps another example would be an aircraft on its fifth straight and level run as a bogie in an AIC (air intercept control) exercise. In these situations, the pilot is alert and involved deeply in the mission. Right? Wrong! Here is a fertile field for such spontaneous ideas as "bombing clouds," jumping an unsuspecting buddy, a barrel roll, a few aileron rolls, or "a nice low pass down the beach to check out the bikinis."

So, what's wrong with having a little fun while flying – just like in the good ole days? Well, for one, it wasn't briefed. Then it wasn't in the proper airspace, nor in keeping with FAA and OPNAV regulations.

The outcome is usually just what the pilot hoped to achieve – a relief from monotony. Occasionally there's a midair, a collision with powerlines, a flight violation from an irate citizen's call, or an airline pilot who witnessed the performance. But in every case, he is taking unnecessary risks that weren't scheduled by operations, prepared for by maintenance, nor briefed by the aircrew.

There's a universal cure for boredom – death! Some less final cures which might be tried include:

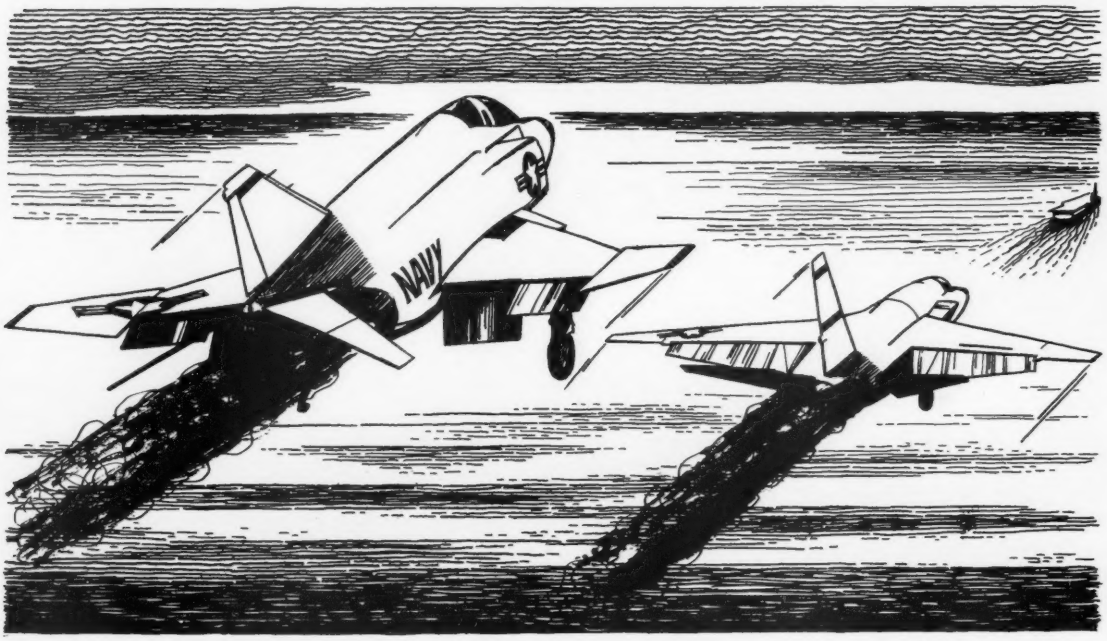
- Plan and schedule more demanding missions on the crew's time (i.e., more precise navigation requirements).
- Make use of all available aircraft systems, and not just those required to do the job. Practice using backup systems.
- Discuss or rehearse in your mind various emergency situations and actions.
- Adhere strictly to the principle of briefing the flight and flying as briefed.

Moments of temporary immaturity – which cost aircraft and lives – can be reduced by professionalism from the CO to the junior hand. The stories at Happy Hour may be somewhat fewer, but so will the memorial services. ◄

Good Grief!

A FLIGHT of three *Phantoms* launched from NAS West Coast for a late afternoon initial carqual evolution on USS BOAT. When the aircraft arrived overhead, they were told that the weather was 600 feet overcast, 5 miles visibility, and to expect a *Case II* recovery. A verification request from the flight confirmed the *Case II* recovery. Just prior to the approach time for the F-4s, the recovery was changed to *Case III,* and new approach times were issued.

The third F-4 in the flight, *Phantom 151,* pushed over on time and went IFR at 1500 feet. Excessive radio transmissions indicated to the crew that there were numerous aircraft in the pattern, with one F-4 reporting *16 miles upwind.* When *Phantom 151* reached 4.5 nm, *Vigilante 301* called "Four and a half miles." With no close radar contacts, and having received clearance to 600 feet, the *Phantom* crew assumed



that 301 was 4.5 miles upwind. To complicate matters, CCA was preoccupied with sorting out traffic and provided no further glide slope information.

Phantom 151 continued the approach using ACL needles and broke out at 500 feet and 30 feet left of centerline. The crew immediately saw *Vigilante 301* on centerline about 100 feet ahead and, to preclude a continued "simo run," executed a missed approach. As luck would have it, 301 boltered, and once again, the two aircraft were flying formation VFR below the overcast.

Separation was gained in the downwind turn, and *Phantom 151,* unable to maintain VFR at the standard pattern altitude of 1200 feet, and assuming that the boat had lost control of the situation, flew an 800-foot pattern to avoid another potential midair. After being cleared to the final bearing, *Phantom 151* received no further information and continued the approach to an arrestment, using ACLS indications.

It is incredible that some of our least experienced aviators are forced into some of the most difficult situations during carqual evolutions. Operating in a strange environment is sufficient reason for apprehension, but to further jeopardize safety by breaking NATOPS minimums, and then to add confusion and a lack of *positive* control creates a situation that is unduly hazardous, if not deadly.

It is unnecessary to place aircrews in these unsafe conditions when the operational commitment for it is unwarranted! ◄

MOVLAS Technique for Pilots and LSOs

By LCDR Mike Mears
CVW-1 LSO

AS pointed out in last month's article, "Rig the MOVLAS," the LSO/air wing does not always have the opportunity to choose the time and circumstances to use MOVLAS. The team has to be ready *all* the time to use MOVLAS, and both pilots and LSOs need practice to become proficient in using the alternate landing aid. MOVLAS is a completely different system than the gyro-stabilized Fresnel lens, and its use requires special techniques, particularly for the LSO. Therefore, I would like to offer my opinions about proper use of the MOVLAS based on extended day/night use over the 6-week period the lens was out of action due to the BELKNAP collision.

For those of you who have forgotten how MOVLAS works, or never knew, or have repressed the memory, the article "You Get No Bread With One Meatball," appearing in the JUN '70 APPROACH, gives an excellent overview of MOVLAS operation. My primary concern, however, is MOVLAS technique, so that is what I will direct my comments toward.

From an LSO standpoint, to effectively work MOVLAS requires an understanding of pilot psychology on the glide slope (among other things). Every carrier pilot except the nugget on his first CQ has a "mind's eye" picture of where the ball should be and how it should be moving for a satisfactory landing. (For example, if he went a little high in-close, he will be looking for a little high ball which should be sinking slowly as he corrects his glidepath.) Furthermore, each pilot has his own rate of correction for a high/low position, depending on distance from touchdown, whether or not he's using APC, fuel state (low fuel provides incentive for tight glide slope control), and a variety of other things. It is virtually impossible for an LSO to move the MOVLAS ball properly in every case to provide proper pilot cues for good glide slope control. Therefore, the first advice I received on MOVLAS procedure, "Put the ball on the airplane and lead him a little," is not only not very definitive, it is also incorrect!

What's wrong with this approach? Well, since every experienced carrier aviator expects a certain magnitude of ball movement for his given power and attitude corrections, if something radically different than anticipated is observed, it blows his mind. (Think of your last landing on a pitching deck.)

With the MOVLAS in use, the pilot no longer receives familiar feedback, for he is now flying the LSO's ball and not his own. This leads to a basic mistrust on the pilot's part ("What is he trying to do to me now?"), causing him to be wary of corrections. This in turn necessitates larger ball movements by the LSO, resulting in a less than optimum pass.

The solution is simple. The one ball position that everyone knows and accepts is dead center, so why not use this as a reference (don't touch nothin') position and use the high/low ball to adjust rate of descent? This, of course, will work only if the airplane is reasonably close to the glide slope in the first place.

The overall MOVLAS technique brief would thus go something like this: "Initially, set up the pilot near the glide slope by showing him an exaggerated picture early in the pass. When the airplane is where you want it on glidepath, check rate of descent and show an appropriate ball deviation. Once a good glide slope position *and* rate of descent are established, center the ball to relieve pilot anxiety, and play only rate of descent from that point."

Thus, a call for increased sink rate would be to raise the ball slightly, then center it again. The pass can now be controlled by a series of high and low "dips" to control sink rate, not aircraft position. The big payoff is that the pilot sees a centered ball most of the time and the LSO can "guide" the airplane to the glide slope properly. (I can hear the pilot protests now, but that's how they used to do it with paddles.)

From a pilot's standpoint, transition to a MOVLAS approach is less demanding than for an LSO, but there are nevertheless certain principles and techniques the pilot must be aware of to make a successful landing.

First of all, the pilot must be informed that a MOVLAS recovery is in effect. This is mandatory to foster trust between the LSO and pilot and also to make the pilot aware that ball movement may not be exactly as he would expect with a lens recovery.

Pilots must also be aware of the MOVLAS recovery so they will disregard any ball information except when they are in positive contact with the LSO. Since the LSO is manually positioning the ball, indications on the MOVLAS are valid only for the aircraft on the ball. This can be a significant problem on a Case III recovery where a ball will be visible to more than one aircraft at a time. The emphasis here is to stay on the gages until told to call the ball.

Other problems the pilot might expect are in ball definition. In-close the ball will tend to blur and lose definition, making it more difficult to "fly the ball all the way to touchdown." Also, the pilot can expect slower ball movement at night, since a rapid movement by the LSO will result in a disappearing and reappearing ball.

If the MOVLAS is rigged on the starboard side, pilots should anticipate some lineup problems. The tendency aboard KENNEDY was to line up right under this condition. ("Left for lineup" is a difficult call indeed.)

In the final analysis, however, the same techniques that enable a pilot to fly a good pass using a lens will enable him to fly a good pass using MOVLAS. Practicing on a regular basis will relieve much of the anxiety of using a different landing aid. This may be one of the greatest obstacles to overcome for a pilot.

At this point, it is probably logical to wonder if MOVLAS can in fact be used on a regular basis without compromising safety and operational readiness. The answer is a definite "Yes." Using MOVLAS exclusively for a 6-week period aboard KENNEDY, there were no landing accidents, no hard landings, and less than a 10-percent reduction in boarding rate, day and night. Given a proper training program, MOVLAS can be a dependable, effective backup.

In conclusion, I would like to mention several points that were brought out by our MOVLAS experience. These should be considered in working up a training plan and preparing for deployment.

- MOVLAS training aboard ship should be conducted for 2-3 days at a time rather than a couple of recoveries a day. This ensures that all pilots (even duty officers) get a chance to use it at least twice; a great boost to the learning curve. The same holds true for the LSOs. The learning curve goes way up if a trainee can control 2 or 3 recoveries back-to-back vice the required one per month. Practicing night MOVLAS, like bleeding, is neither required nor desired.

- Pilots tend to fall into two groups when the MOVLAS is rigged. The first group concentrates so hard on the ball that they forget about lineup. The second group doesn't fully trust the LSO and goes to the deck for visual cues. The members of this second group are an accident looking for a place to happen, so they must be discouraged from this practice early in the game.

- There is a natural tendency for the inexperienced LSO to raise his glide slope to increase hook-to-ramp clearance. This can result in higher than normal sink rates and resultant hard landings.

- Each pilot answers ball deviations differently; thus LSO technique will vary slightly from pilot to pilot.

- Even under ideal conditions, the boarding rate will decrease slightly while using the MOVLAS. During pitching deck ops, recovery size should be kept to a minimum unless time is not a consideration.

- During night recoveries, LSO fatigue is substantial. Several LSOs should split the recovery to provide pilots with 100 percent concentration on each pass from 1½ miles in.

- The LSO should run the ball off the bottom of the light box when aircraft are not being controlled. This precludes the "level off at the 90" for the early lookers and also makes the pilot fly instruments through the 45 to help set himself up.

- Initial correction for a high start must be on the radio. If the ball is run off the top of the light box, a radio command will be necessary in response to a "Clara" call. If the ball remains on the top cell (this is selectable by the LSO), the initial correction will not be apparent to the pilot in terms of ball movement until the airplane descends to a point near the glide slope. This second situation will in most cases confuse the pilot and cause him to go to the deck for some indication that his initial correction is taking effect. As a result, he will probably miss the ball moving downward as he approaches the glide slope and then fly through it to a low position.

- The MOVLAS rheostat for datum light intensity has a built-in stop at 40 percent. This stop must be removed for night operations to prevent the datums from overpowering the ball (about 16-18 percent worked well). The best time to remove the stop is right now, not when the first airplane is on the ball just after you have lost the lens.

Hopefully, there will never be another tragedy like the BELKNAP/KENNEDY collision. There are, however, almost an unlimited number of other ways that the lens can be put out of operation. It should be obvious to everyone that a backup is needed, and MOVLAS is that backup. It is effective and completely workable – if you train to use it. ◄

Re "One of Those Days"

NAS Pensacola – On 14 August 1963 I had "One of Those Days" (JUN '76 APPROACH) in an E-1B, except it occurred at night. It was my second hop in the *Fudd*, and while I occupied the right seat, I was pretty much along for the ride. Except for a few hours in the ship's C-1A, all my time in the previous 8 years since flight training had been jet. Multiengine props were full of knobs, switches, and controls of which I knew little.

To make a long story short, our total time from cat to "splat" was less than 20 minutes. We started losing the port engine shortly after launch, after attaining a maximum altitude of 800 feet MSL. Fuel dump was initiated down to 1100 pounds as we circled the ship – the nearest airfield being over 140 miles away. The ship went to GQ trying to clear the prespotted dawn scheduled 65-plane jet launch. Like in the June article (it was hot and humid), we were unable to arrest the descent; even after dumping some more fuel, -50 fpm was the best we could manage. Time for the respot ran out as we got below 100 feet, and we headed back to the ship to ditch.

The night ditching into 8-foot swells was brutal. There was no bounce. The nose tucked under. The cockpit and cabin personnel were all immediately underwater. Three of us made it out with various degrees of hurt – myself, the RIO, and one crewman. Fate took the pilot and other radar operator down with the aircraft.

The accident board was stumped, and I'm sure having a novice prop copilot didn't help them much. The books said the E-1B would fly single engine under the conditions that existed. Since it didn't, the board finally assumed there was probably pilot error. In those days, the E-1 climbed with two-thirds flaps and cruised with one-third. The board felt maybe the pilot forgot to reset the flaps and therefore had extra drag. I felt this assumption was wrong, but since it was night and the E-1B has an overhead flaps handle, I wasn't sure of its position. All I knew was that the pilot, a good buddy, had handled the emergency in a calm and professional manner. There was no confusion in the cockpit. He flew the bird and handled the emergency while I worked the radios. I never could accept the pilot error theory. It just seemed to me the aircraft wasn't about to fly that night no matter what we did.

The next 3 years, as irony would have it, I was a Safety Center accident investigator. Every so often I'd research the E-1B accident report and look into the *Fudd's* history in the Center's files. There were several incident reports where recovered single-engine E-1s were unable to maintain altitude but no clues as to why they were unable to get the

book's performance. Single-engine test data when actually flown seemed to correlate with the NATOPS figures. It just seemed that E-1s at low altitude, over water, on single engine were encountering "no-lift days and nights."

Memories fade and the mystery of the E-1B was almost forgotten when, during my tour as CNAVANTRA Safety Officer during '69-'72, an E-1B incident report crossed my desk. As I remember, it was very similar to "One of Those Days," except they were trying to make it back to the ship. They went through the sequence of dumping and losing altitude but never got it to less than 100 fpm.

Soon it became apparent they would have to ditch before the barricade and deck could be made ready. At about 200 feet altitude, the copilot was having trouble understanding the radios. To help his reception, he *closed the overhead escape hatch.* Then, not only could he understand, but the E-1B *leveled off.* The pilot closed his hatch and the aircraft was able to climb. Shortly after climbing to 500 feet, the deck was ready and a single-engine recovery was satisfactorily made. The night we ditched, the hatches were open from the cat to ditching.

I write this as it may be of interest to those who still drive the *Willy Fudd,* and also because it appears to me that the large photo accompanying "One of Those Days" shows the pilot's escape hatch open with the engine feathered.

I'd really like to know when in the sequence of events the hatches were opened, and does the E-1B book mention the drag generated by flying hatches open. I just wonder if the hatches cause the 98 knots vice 105 single-engine cruise situation or if the hatches could have contributed to the descent 8 miles out?

CDR R. Carson
Naval Aviation Schools Command

• Here's what the E-1 NATOPS Manual has to say (pg. 5-17): "Consideration should be given to closing the pilot's overhead hatches when attempting to avert ditching by flying in ground effect. This effects a reduction in drag and may result in a slight improvement in aircraft performance."

NAS Norfolk – It is difficult to argue with success but successful accomplishments should also be the subject of constructive criticism so that repeats of the situation may be less "fraught with danger." Being an ex-*Fudd* flyer, the article brought back memories of many "what if" skull sessions and hairy sea stories, most related to the E-1's unvaunted single-engine capability. From the comfort of my readyroom chair, the following thoughts occurred while reading the article.

No amount of Monday morning quarterbacking could possibly stick an armchair critic in this crew's position. I have to assume that the proper consideration was given to all the factors of weather, deck movement, divert field status, and SAR capabilities prior to initiating an E-1 single-engine bingo of greater than 100 miles into a 25-knot headwind. I would hope that aircraft damage due to a barricade engagement was not the deciding factor in this divert.

Were the overhead hatches closed? From the picture it is difficult to determine. All the old *Fudders* have heard the story time and again of the instance where closing the hatches allowed a similarly crippled *Fudd* to climb back up to flight deck level. Hopefully, as long as *Fudds* continue to defy the law of gravity, that story will continue to circulate.

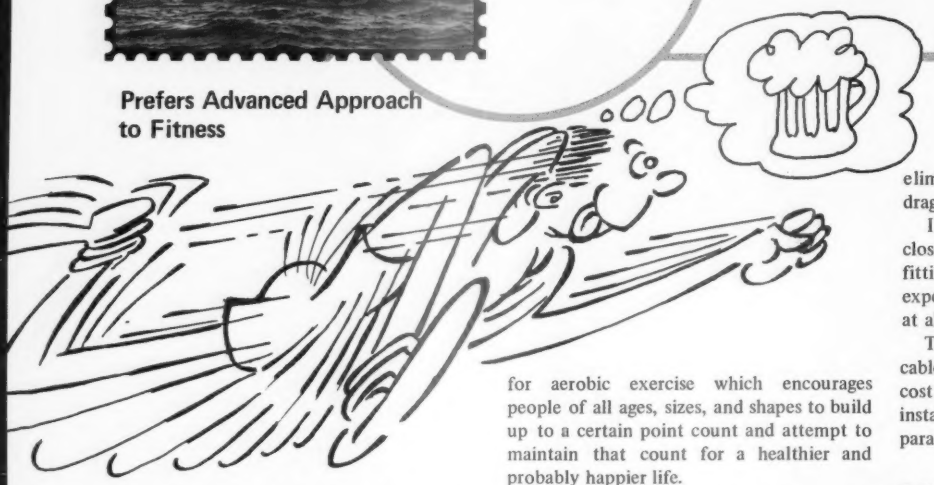
It appears as though the pilots found themselves between the proverbial rock and a hard place in regards to their airspeed vs rudder deflection vs rate of descent. At their slow speed (98-100 knots), it would require more rudder deflection to maintain straight flight than at a higher airspeed (105-110 knots). This rudder deflection would tend to increase the drag, and therefore, the rate of descent due to the insufficient thrust available. Although the article states that increasing the airspeed also increased the rate of descent, I cannot convince myself that all aspects of this problem were fully investigated by the crew.

Those of us who have flown those slow, low-flying aircraft have tucked away in the back of our minds a little lifesaver called ground effect. It's free and there all the time, just waiting to give you a climb in-close during FCLPs, or a helping hand to a distant shore during an emergency. Almost all the drag in this slow-flight condition is induced vice parasite drag, and induced drag will be drastically reduced in the ground effect region with a resulting increase in thrust available and range. To be sure, it takes a good deal of brass to take an underpowered airplane down to the deck. However, the article states that at 2000 pounds, the rate of descent was reduced to 200 fpm, and at 1600 pounds, the rate of descent was only 100 fpm. After determining that the aircraft would fly with 100 fpm descent at 1600 pounds, the crew should have immediately utilized ground effect to level the aircraft and eliminate the heart-stopping low fuel crisis that almost saw the flight terminate in the watery part of Subic Bay. One last word on ground effect: You don't have to have a fan on the front end to use it, but it helps to have a good sized wingspan.

I started by saying it's difficult to argue with success and then proceeded to do just that. Congratulations are due to the crew for their resourcefulness and airmanship in saving their aircraft! A few more tricks of the trade would have made it a bit less exciting Happy Hour sea story.

LT Cameron B. Place
VAW-123 ASO

Letters



Prefers Advanced Approach to Fitness

NAS Corpus Christi, TX – Although I appreciate any article or commentary which helps to promote fitness and good health, I have certain reservations about the "retarded approach" (APR '76 issue). I much prefer a more "advanced approach," one which puts real spark to one's health and fitness. I am very much pro-aerobics and believe in activities that do the most for one's cardiovascular system. When that system has not been exercised regularly and adequately, we find the out of shape and unfit types.

I am especially pro-jogging and running because I find that for most people it is the most immediately available exercise. You literally can run any place, any time, under any conditions, and you do not need elaborate equipment, a special facility, or an organization of any sort. And it is very effective aerobically.

But to zero in on some of the "retarded" suggestions, let's deemphasize the need, the importance, or the fashionable aspects of beer and booze. We should not give the impression that booze is a reward. Fitness and good health are their own rewards!

I would much prefer to see a mass-produced, widely distributed table of points for aerobic exercise which encourages people of all ages, sizes, and shapes to build up to a certain point count and attempt to maintain that count for a healthier and probably happier life.

CDR John A. Butterfield
XO, VT-28

● As previously pointed out in the JUL '76 letters page, the purpose of LT Thompson's article was to encourage exercise, not drinking. The purpose of beer in the article was not to advocate the use of alcohol as a reward, but rather to give the individual who is not involved in a physical fitness program something he can relate to. We felt that a low-key and lighthearted approach to this subject would be more effective in reaching this category of readers than a formal, scientific article on physical conditioning. For those of you who are already motivated, the article on pg. 18, "Blood Fat and the Fighter Pilot," discusses cholesterol, blood fat, aerobics, and conditioning in a total program of cardiovascular fitness.

Re "Ejections in High Surface Wind Conditions"

NAS Glenview – Refer to subject article in the APR '76 issue of APPROACH. You mentioned that installation of Koch fittings and an improved training program has eliminated the problem of parachute drag-related major injuries in the Air Force.

I feel if you research the problem a little closer, you'll find that the Navy uses Koch fittings (which are hard to operate, even for experienced jumpers) or they don't use any at all, as on the NB-6, NB-8, or NC-3 chutes.

The Air Force uses mostly one-and-a-half cable pulls which are easy to operate and cost much less than Koch fittings, and they install quick disconnects on all their parachutes.

PR1 John T. Gordon

● You're right about the NB-6, NB-8, and NC-3 series chutes. However, none have been used in an emergency bailout for years. We agree that if they were used, they would be incompatible with the SV-2 survival vests in high winds. We disagree, though, with your statement that Koch fittings are hard to operate. The user must be familiar with them and be prepared to release them after landing. The Air Force/Army Capewell fitting is much easier to operate and is lighter in weight, but it is bulkier, and when the chute is released, it enhances the chance of hanging up. The Navy uses the Capewell fitting on all parachutes for intentional jumping.

Sea Story

FPO, New York – While we were participating in a FLEETEX, we were doing extensive HIFR (helicopter inflight refueling) in order to maximize on-station time. We were operating from the beach, but our operating area was 120-150 nm at sea, and our primary HIFR source was a foreign DD.

When we hovered for our first HIFR, we were informed we'd have to land, but not to

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sweat it; the DD crew handled H-3s all the time. The section leader landed, refueled, and departed with no strain. However, the wingman forgot to lock his brakes on landing and rolled forward after landing so that his rotor tip path was within the concave superstructure of the hangar bay.

To make a long story short, the HAC made a beautiful, slight aft cyclic takeoff and the crew completed their mission uneventfully.

I think a comment or two might be appropriate. Neither the section leader nor his wingman was prepared to land for fuel. The briefing indicated HIFR only. There isn't any *Aviation Facility Ships/Helicopter Facility Resume* for non-U.S. ships, so pilots must depend on thorough briefings for information about participating foreign ships.

During debrief, OPCON was queried about the situation and was unable to provide any information. We surmised the requirement to land for fuel was never passed. If the bird had been dinged, someone would have mentioned the five Ps (Prior Planning Prevents Poor Performance) for sure.

LT Mike Matt
HS-75 ASO

• Your point about thorough briefings is certainly valid. It is obvious after you queried OPCON that it was a surprise to them. There had to be a breakdown in communications. However, the fact that the pilot of the second helo forgot to use his brakes after landing is inexcusable. Whether the parking brake was set or not was immaterial. Every helo pilot should be on the binders after any shipboard landing.

The second edition of HOSTAC APP-2, *Helicopter Operations Other Than Aircraft Carriers,* has been published and portrays, similar to the FLIP Enroute Supplements, lists of ships of NATO countries, their deck lighting, GSI descriptions, NATO abbreviations, etc.

Keeping Pilots Out of the Fireball

El Centro, CA – I have read with interest your article entitled "Too Late, Too Hot to Survive" in the MAY '76 issue. LCDR Sutherland is correct; too many aircrewmen have died because they parachuted into the crash fire.

The Navy is presently working on fire-resistant material for parachute canopies; in my opinion, this alone will not solve the problem. These aircrewmen are lost because the *ballistic trajectory and velocity* of the man/seat mass, and the man himself (as the parachute canopy deploys and fills) is such that he can enter the fire. What is the solution? To prevent the man/parachute from *entering* the fire. How can this best be done? By increasing funding for an upward-seeking ejection seat equipped with a long burn-time rocket and automatic guidance and control.

With this concept, there is no way an aircrewman can enter the crash fire; he will have a fully deployed parachute at sufficient distance away from the fire. If he nears the fire, he will be lifted away from it by upward flowing currents of warm air.

One further comment: Low velocity is the key. Even with 20 FPS max horizontal and 20 FPS vertical velocity, the nylon canopy material will maintain its structural integrity if it nears the fire. Thus, it will lift the aircrewman clear of the fire and save his life.

Gene R. Drew
National Parachute Test Range

Sorry State of Personal Gear

FPO, Both Coasts – It was 1800 local, and we were underway conducting flight operations. The maintenance officer requested a PO2 (aircrew survival equipmentman) to inspect a pilot's survival gear. The gent was a commander ORE inspector/observer.

The rigger took the gear to the shop and almost cried as the following discrepancies came to light:

• The collar lobe of the LPA-1 had a packing date 10 months overdue for test and check.

• The oxygen mini-regulator needed to be changed.

• There were no Mk-13 Mod 0 flare packs or sea dye marker hanging on the LPA-1.

• The SV-2 was opened, and there were no batteries in the penlight or yellow webbing flag on the shroudcutter.

• There was no survival radio.

• The oxygen mask was missing an inhalation valve and cover.

• The helmet was without any reflective tape on it.

These conditions were flat out unsat!

Look, pilots: It only takes 1 minute to preflight your survival gear. It only takes 10 minutes every 14 days for a PR to functionally check your oxygen mask and helmet. It only takes 30 minutes every 91 days for a PR to change your life preserver, oxygen regulator, and give your gear a thorough checkout.

Who knows? The life you save may be your own. Only your friendly rigger knows for sure. Just ask!

Name Withheld

I'm Not OK, and Neither Are You

NAS North Island – After reading LT Hunziker's article, "I'm OK, You're So-So," in the JUL '76 APPROACH, I couldn't help but think, when are helicopters going to be considered aircraft by aircraft carriers? The age-old philosophy of "Expedite your launch, and stay out of the way while we are operating aircraft" seems to still prevail. That philosophy worked fine when helos operated only in VFR conditions in the early fifties, but in today's world, it is a different ball game.

I think it is about time that ships' operating procedures either be changed or adhered to if they are correct. The fact that the helo is theoretically in sight of the ship at night or during reduced visibility does not relieve the ship of the responsibility to keep the pilots advised of other traffic and ship maneuvers. A midair collision between a helicopter and a fixed-wing aircraft is just as fatal as one between two fixed-wings. I speak with some authority since I, fortunately, survived through these same types of experiences during 24 years of driving helos.

CAPT R. A. Bruning, USN
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Pacific Fleet

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CREDITS/The P-3C "Update I" flying past Adak's bleak mountains was painted for this month's cover by Lockheed artist Chuck Hodgson. Its markings are VP-19's, the first squadron to deploy with this latest version of the ASW patrol plane. VP-19 received its first Update I *Orion* last August and had a detachment in the Aleutians early this year. Pg. 21-22 charts: *Beyond Diet . . . Exercise Your Way to Fitness and Heart Health.*

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Look what's new!

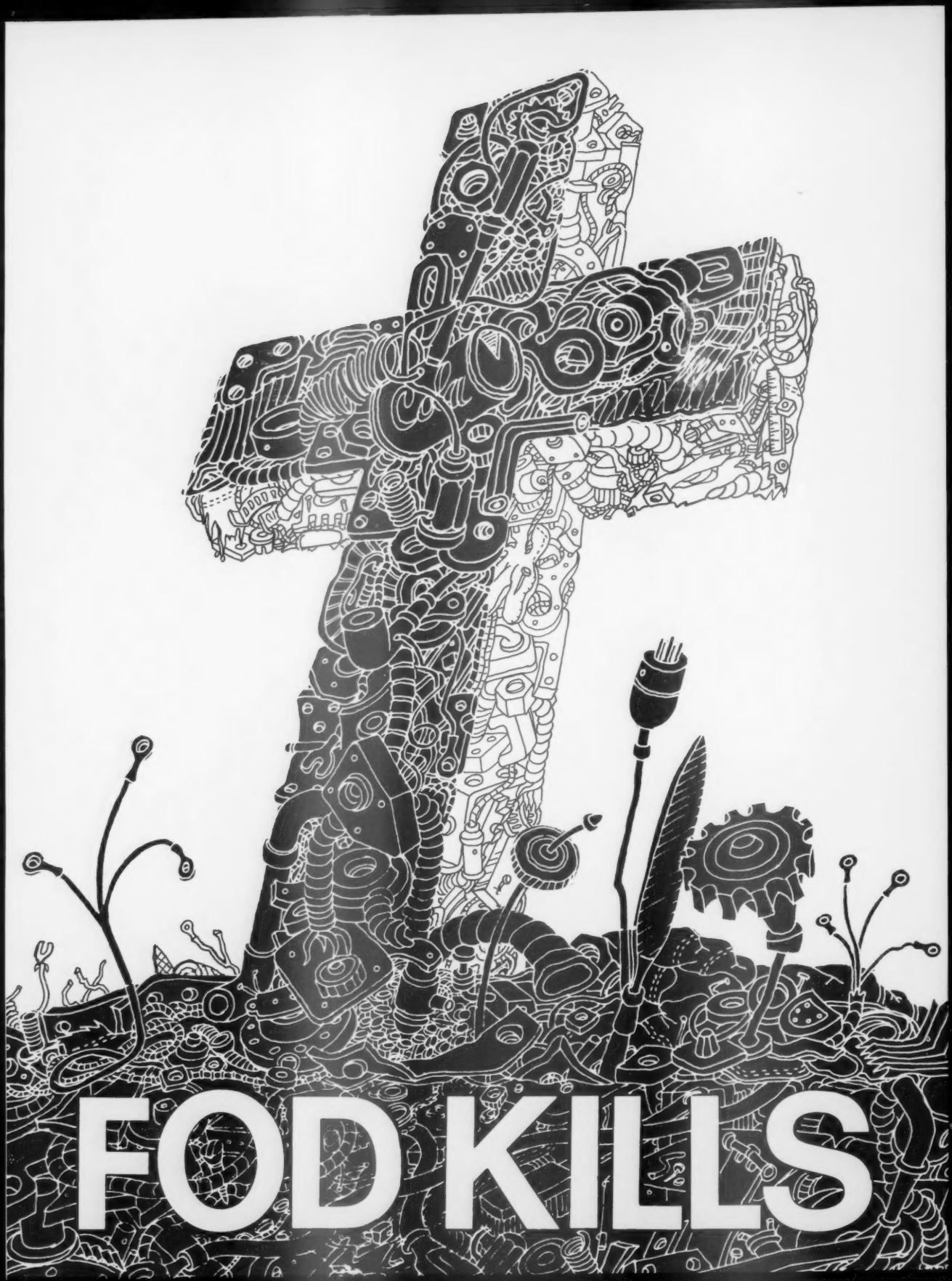
By LTJG Bruce Arnold
VP-17

OUR squadron just recently completed transition from the P-3A to the P-3B. One of the major changes was the removal of the water injection system and the control box on the center control stand.

A few months ago, AMH2 Smolana suggested our flightcrews could use the space vacated by the control box by installing a performance card covered by Plexiglas. Flight engineers and pilots are now able to use the necessary takeoff data quickly and easily.

The most obvious benefit, besides standardization, is safety. The information was previously written on a card or piece of scrap paper and often interfered with the flightcrew when it slid out of sight or became airborne on the takeoff roll.

The modification has been enthusiastically received by our pilots and flight engineers. We hope other VP squadrons may find this idea helpful. ◄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